A NEW

TREATISE

ON THE

DIFFERENT DISORDERS

ARISING FROM

EXTERNAL INJURIES

OF THE

HEAD;

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PRACTICAL CASES.

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INTRODUCTORY DISCOURSE.

WERE we to eſtimate the lights thrown on particular diſorders, from the numbers of men of eminence who have treated of them; then ſhould we conclude, that of all the maladies to which human nature is unhappily ſubject, thoſe proceeding from injuries on the head muſt be beſt underſtood; as from the days of Hippocrates to our own, they have been conſidered with a moſt particular attention.

But, however great our obligations to our anceſtors, and to many illuſtrious and learned moderns and contemporaries are, yet, the fact is, that our knowledge of this ſubject, ſo intereſting to mankind, is STILL CONFINED; and very much—*indeed, almoſt every thing*—remains to be explored! the various diſorders incident to injuries on the head, have been by no means diſcriminated with ſufficient preciſion, nor have their ſymptoms or modes of treatment been clearly aſcertained! Even the uſe of the trephine is now more indefinite than it was a century ago! Mr. Pott, * an able writer and moſt diligent obſerver, complains *of the darkneſs and obſcurity of this part of Surgery*, and it muſt be confeſſed, that the work, now before me, is pregnant with proofs of this truth! A much later author ſeems to have beſtowed no ſmall pains and labour, to illuſtrate this very intereſting ſubject; nor does he forget to pay himſelf ſome compliments on his

* Surgery, vol. 1, p. 191, Iriſh Ed.

ſucceſs;

ſucceſs ; " but, however diffident I am" (ſays he) " in firſt diſſenting from an eſtabliſhed " doctrine, IF MY OWN EXPERIENCE IS FOUND " TO JUSTIFY THIS DISSENT, the more reſpect- " able the authority, by which the contrary " opinion is ſupported, the more I think ne- " ceſſary to inveſtigate the merits of it." But, alas ! on a cloſe and critical examination of this performance it will appear, that *obſervations* and *experience*, almoſt every where militate againſt his *aſſertions* and *opinions—for they are nothing more.*

That I may not be deemed preſumptuous, in thus aſſuming the ſtile of A MASTER ; and by way of engaging the favorable opinion of the public, I beg leave to ſubmit to the candid and critical reader, my pretenſions to this character—without doubt, there is no part of the habitable globe, that for half a century paſt, has afforded ſuch an ample field for *obſervations on injuries of the head*, as Ireland in general ; this province of Munſter in parti-

cular! for our people, *invincibly brave*, notwithſtanding the cruel oppreſſions they have ſuffered for a century paſt, and highly irritable, ſoon catch fire: a ſlight offence is frequently followed by ſerious conſequences; and ſticks, ſtones, and every other ſpecies of offence next to hand, are dealt out with great liberality! To this add the frequent abuſe of ſpirituous liquors, particularly whiſkey, which has, unhappily for the *morals* and *conſtitutions* of the people, found its way to every part of the kingdom! From theſe HITHERTO UNRESTRAINED CAUSES, * it is, that many of our fairs, patrons, and hurling-matches, terminate in bloody conflicts; and that violent outrages are frequently felt and complained of, but ſeldom puniſhed! From this it appears, what ſuperior

* In the ſeſſion before laſt, a bill was brought into the Houſe of Commons, to reſtrain the exceſſive uſe of Whiſkey. Certain regulations were annexed to the retailing of this *combuſtible*, and the price of Spirit Licenſe conſiderably raiſed: yet, notwithſtanding that the public at large were greatly intereſted in the enforcing this act; from the beſt informati-

on

ſuperior advantages Iriſh Surgeons have long poſſeſſed, in this department of their profeſſion, over thoſe of the neighbouring nations; and whilſt I have long deplored, and execrated the cauſes that gave riſe, and ſtill give vigor and animation to all theſe exceſſes, I adore the ſupreme, who has afforded me health, perſeverance, and capacity, to avail myſelf of them, and to convert the follies of my country-men into wholeſome information, for the good of mankind!

I have had no leſs than four fractured ſkulls to trepan on a May morning, and frequently one or two. In the courſe of above thirty-five years practice, I may ſafely affirm, becauſe

on I could procure, in moſt places it was ſcarce obſerved "*eight days after it became in force.*" It is true, the retailers in moſt places ſurrendered their licenſes; but ſcarce a village in the country, or indeed cabin on the road, that did not vend it privately. What ſucceſs will attend the act paſſed this year, remains to be told.——But certain it is, that it is in vain to form wholeſome laws, if not duly and properly enforced.

truely, that on an average, one month with another, from three to four caſes have fallen to my ſhare, of either fractures, concuſſions of the brain, or extravaſations! The greater my experience and obſervations, and the further my reading on theſe ſubjects extended, the more fully I became convinced of the utility and neceſſity of the work, which I have now the honour with great deference to lay before the faculty, and the public.

But as no opportunity has been loſt by the enemies to the reputation of this moſt ancient country—and too many of theſe are domeſtic ones——It will no doubt be remarked, that if under the preſent mild and equitable laws, ſuch violences and outrages are perpetrated and continued, what muſt not have been the ſtate of barbarity of the country when governed by the native rodes; and this muſt effectually do away all that ſound legiſlation and boaſted civilization, which Iriſh writers give ſo much credit to their anceſtors for? Will the gene-

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rous foreigner forgive me, if, for a moment, the PHLEGM of the philoſopher is abſorbed in the FIRE of the *patriot;* and that I deſcend to render that juſtice to my poor country-men, *which they have for a long period ſeldom experienced!* Until the beginning of the laſt century, the preſent mode of legiſlation was confined to a contracted corner of the kingdom, and for that reaſon conſtantly called *the pale*, or encloſed. Beyond this confined circle, no laws were known, but ſuch as had been in force from time immemorial. The contraſt between the two, cannot be more ſtrongly illuſtrated, than by the teſtimony of Finglas, Chief Baron of the Exchequer to this diſtrict, in the reign of Henry VIII. * He expreſsly tells us——" that the Engliſh Statutes paſſed " there, *are not obſerved eight days, after paſs-* " *ing them;* whereas, theſe Laws and Statutes, " made by the Iriſh, *they keep firm and ſtable,* " *without breaking them, for any favour or re-* " *ward!*" Sir John Davis, had a much bet-

* Baron Finglas's Breviate of Ireland.

ter

ter opportunity of knowing the manners and diſpoſitions of the Iriſh, as being the firſt Engliſh Judge, who went on Circuit outſide the Pale, in the reign of James I. He affirms, " that there is no nation under the ſun, that ' love equal and indifferent juſtice better " than the Iriſh, or will reſt better ſatisfied " with the execution thereof, although it be " *againſt themſelves!*" * Lord Cooke expreſſes his ſentiments in words ſtill ſtronger, " for I " have been informed by many of them who " have had judicial places there, (in Ireland) " and partly of my own knowledge, that " there is no nation of the Chriſtian world, " that are greater lovers of juſtice than they " are, which virtue, muſt of neceſſity, be " accompanied by many others." † The preſent race of Iriſh are *ſtill* a brave, an hoſpitable, and a generous people, poſſeſſing more native good ſenſe and penetration than any other commonality I know. No people in the world

* Sir John Davis's Hiſtory of Ireland.

† Cooke's Inſtitutes, Ch. 76.

could

could be ſpeedier made amenable to law and juſtice, were any pains taken with them! but, alas! there is a ſpecies of men, that have long interpoſed between them, and both——*hinc illæ Lachrymæ!*

Every one knows, that different liquors have different effects upon the ſame perſon. The man who becomes good-humoured, and expanded by generous claret, will not be ſo pleaſing, with large libations of punch. If inebriated with ſpirits, he is capable of any crime. The cheapneſs of infernal ſpirits, the facility, with which they are procured, and the *attention* beſtowed in making them circulate through the moſt ſequeſtered parts of the kingdom, will well explain their baneful influence, without any intemperate inferences.

Flattered with the pleaſing hopes, that from the extenſiveneſs of practice, and the accuracy of my obſervations, I ſhould be enabled to *illuminate* this very opaque region of Surgery, and

and throw into high cultivation an hitherto rugged and ungrateful ſoil, I have taken the moſt comprehenſive view of the ſubject, and added ſome new obſervations on injuries of the head, unnoticed by other writers. The work, after mature reflection, I have divided into Chapters, in the following order, illuſtrating each by a few practical caſes.

The firſt points out the manner of treating wounds of the ſcalps, from ſuch as merit attention to the moſt complicated. I have been more than once witneſs to dilacerated wounds of this claſs, where the looſe detached flap has been inhumanly cut off, which, by very little trouble and attention, would be perfectly re-united, and nature ſaved much trouble and pain.

In the ſecond, extravaſated blood, formed under the ſcalp is conſidered. Mr. Pott * thinks accidents of this kind, ſeldom require

* Injuries of the Head, p. 21.

any

any operation, and almoſt always diſperſe by proper diſcutients; however, the reader, who peruſes this Chapter, will, with me, judge otherwiſe, and be convinced, that moſt alarming ſymptoms may ariſe from diſtinguiſhing, between emphyſematous ſwellings of this part and extravaſations!

The third Chapter is of a moſt intereſting nature, and demanded the utmoſt exertion of abilities I was maſter of, to throw it into DAY! that wounds of the ſcalp, in which the pericranium is injured, without offending the bone, though ſeemingly, for many days, of little conſequence, yet, too often and fatally has been long known and deplored! M. Rohault,* Surgeon-general to the Sardinian armies, has formed on this ſubject an hypotheſis, plauſible indeed enough. The intimate adheſion of the dura-mater to every part of the cranium, had been demonſtrated to the Academy of Sciences, long before this

* Traité des Playes de Tete, p. 27.

gentleman

gentleman became a writer, by the celebrated Mery. He ſuppoſes, where the bone has not given way to the ſtroke or fall, that the ſmall veſſels, by which the dura-mater is connected with it, may be—firſt, either greatly diſtended; or—ſecondly, totally ſeparated from it. In the firſt ſtatement, the accidents ceaſe from the fourth to the ſeventh day. In the ſecond, or where there is an extravaſation on the dura-mater, they continue much longer, and are more or leſs dangerous, according to the extent of the ſeparation. M. Le Dran, accounts for the formation of pus on the dura-mater, from injuries of the pericranium, by obſerving, that the communication between theſe membranes, at the point of percuſſion, being thus broke, they melt into matter; and if the blow has fallen with more violence on the inner than the outer table of the ſkull, the quantity of pus will be much greater underneath. Hence, in all injuries of the pericranium, in which the ſkull is not fractured, but contuſed, and which, he ſays, will

will be known by a blackiſh ſtain on it, he forceably recommends the application of the trephine. * Mr. Pott has embraced nearly the ſame ſyſtem. † The communication by blood-veſſels, and otherwiſe being (ſays he) thus broke, between the pericranium and dura-mater, the inflammation in the one, is gradually communicated to the other; and thus matter becomes formed under the ſkull, if not prevented by large and repeated bleedings and other antiphlogiſtics. But when the matter is formed, the operation is unavoidable.

My eſteemed friend, Mr. Deaſe, of the Royal College of Surgeons, has lately favoured the public with an ingenious Treatiſe on this ſubject: indeed the beſt I have read. ‡ He contends againſt Mr. Pott, that the communication between the external and internal mem-

* Obſervations de Chirurgie, T. 1, p. 84, &c.

† Injuries of the Head, p. 22, &c.

‡ Obſervations on wounds of the Head.

branes

branes of the ſkull, cannot eaſily produce ſuch inflammation and abſceſs on the dura-mater, as will account for ſuch numbers of deaths, and many of them ſo ſuddenly too! he thinks the violence of the blow or fall, is communicated in ſuch caſes, to the pia-mater and brain, by a ſpecies of concuſſion. He by no means approves of theſe copious evacuations by phlebotomy, ſo ſtrongly recommended. In the beginning, purgatives may be attended with ſalutary effects; as alſo what he calls ſedatives, as ſp. nitri dulcis, ſp. vitrioli. bliſters and ſinapiſms are not without their uſe. Opium, he has little reliance on. Bark may be highly uſeful with acidulated liquors, to prevent abſorption. On the whole, when the univocal ſigns of matter formed on the brain appear, he recommends the operation, and piercing the dura-mater with a fine lancet, if neceſſary.

Mr. Bell, of Edinburgh, judges plentiful bleedings, in the firſt inſtance, highly neceſ-

ſary;

ſary; but then he judiciouſly recommends them, as near the ſcene of action as poſſible. Cupping, ſcarrifications, and leeches, as topical applications; and when more profuſe ones are found neceſſary, he thinks, the jugular vein or temporal artery, ſhould be the places of action. The contuſed parts ſhould be opened, and any confined matter freely evacuated; which, if it does not remove, may at leaſt hinder the increaſe of matter on the brain. In fine, when the matter is formed there, the trepan ſhould be immediately had recourſe to. *

Without deſcending to remarks on the diſſonant opinions of authors on this very intereſting ſubject, I ſhall diſcloſe lights in which I have conſidered it. With confidence then I affirm, that wounds of the ſcalp, whether by inciſion or contuſion, in which the pericranium is engaged, will not *in general*, produce more alarming ſymptoms than ſimilar injuries

* Syſtem of Surgery, vol. 3.

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on other parts, provided the habit of body be not materially vitiated. When this is the caſe, we know from melancholy experience, that hurts, trifling in appearance in other parts, are often followed by moſt formidable ſymptoms; and why not here? If the communication between the pericranium and dura-mater, by means of ſmall blood-veſſels, conveyed the injuries on one membrane to the other, why is it not conſtant and uniform, as we know Nature's laws invariably are? But this is by no means the caſe; and if reſearches were to be made, it would appear, that not one in twenty deſperate wounds of the head, with denuded bone, have had any alarming ſymptoms whatever, during the progreſs of the cure! The advocates for this doctrine acknowledge, that numbers of caſes occur, in appearance very formidable, which are cured with little confinement or trouble. How many gallant poor fellows have I met with, who would in a manner ſcorn to beſtow the ſmalleſt attention to deſperate wounds of this

ſort?

ſort? the caſe of Yves, (Obſ. 8.) is as ſtrong a proof of the abſurdity of this doctrine as can be adduced! But if the obſtruction of communication between the dura-mater and pericranium, is the cauſe of inflammation and abſceſs, why has not the antiphlogiſtic courſe ſo ſtrongly recommended, and ſo ſteadily, and in many inſtances ſo early purſued, prevented the formation of matter on the brain? It is acknowledged, that it has not! But the very ſymptoms attendant on this complaint, prove to demonſtration, that inflammation has not the ſmalleſt ſhare in it. The gleety matter from the ſore; the languid pale aſpect of this laſt; the ſore going from bad to worſe; the ſpontaneous ſeceding of the pericranium from the ſkull; the rigors and horrors, are ſurely ſymptoms very remote from inflammation! If a wound or hurt in any other part of the body, inſtead of laudable pus, diſcharges a thin ſanies: if the ſore aſſumes a bad aſpect: if rigors and lowneſs come on, is it to bleedings and other evacuations, which tend viſibly to deſtroy what little remains of the vis vitæ, we

have recourſe? it is not! it is to active ſtupes and warm poultices: it is to animating dreſſings, to high diet, bark, and every other ſtimulant that can help to reſtore debilitated Nature!

Juſt ſo, ſhould wounds of the head of this claſs be treated. In the beginning a moderate line ſhould be drawn between repletion and abſtinence. When inſtances of a bad habit, *even down in the ſore;* then recourſe ſhould be had to ſuch medicines as I preſcribed for Meehan, (caſe 7,) and ſo on, to other reſources, ſtill more powerful, as deſcribed in the ſucceeding chapter. I have conſidered this matter formed on the brain, as of a cold nature, and rather a tranſlation. Whatever will give ſtrength and ſtimulus to the abſorbing veſſels: whatever can by irritation, or otherwiſe, promote the ſecretions, are the ſure modes of cure. In dropſies, and leucophlegmatiæ, where the circulation is carried on languidly; where the ſecretions by the kidnies are ſmall; by the ſkin,

none

none at all, I have been aſtoniſhed at the ſecretions by urine and ſweat, which I have ſometimes procured by an active doſe of diaphoretics, in the courſe of a night! When I had fixed my opinion, as to the cauſe of matter formed on the brain, I applied the ſame doctrine to it. I conſidered that the matter yet forming might be re-abſorbed, and any acceſs to it prevented. That even by making this matter more active and warm, and nature more powerful in her reſources, ſhe herſelf might point out the mode of relief; as in the formation of pus on the brain, by real inflammation. (Caſe 14.) It is in diſorders of this claſs, that my eſteemed friend Mr. Bromfield's ſudorific proceſs can only be ſerviceable. * In concuſſions of the brain, I apprehend it can be of little conſequence; for where no matter is formed, no ſeparation of the dura-mater happens. At leaſt, on a minute inſpection of very many, who died of this complaint, I never met with either! If indeed, the examination is delayed for very

* Chirurgical Obſervations, v. 1, p. 9, &c.

many hours, ſome water may appear; but this is only produced by the melting down of parts of the ſubſtance of the brain: not by an acquired, but to a natural cauſe.

But the formation of matter is not the only alarming complaint that follows injuries of this claſs. Water may become collected on the brain from it; and this forms a ſtill ſtronger proof of the above doctrine. A peruſal of the ſixth chapter, will ſhew the pains I have taken to elucidate this very obſcure ſubject; and I flatter myſelf, that the doctrine of hydrocephali whether from external or internal cauſes, will no longer be ſo obſcure and unintelligible as it has been. It is a known fact, that in about thirty or forty hours after diſſolution, water will be found in the brain, and often in the thorax, from the mere deſtruction of heat and circulation only; how then in the name of common ſenſe, can we ſuppoſe with Dr. Fothergill, * that an hydrocephalus from its commencement to its fatal concluſion, is

* London Medical Eſſays, vol. 4, art. 3.

circumſcribed

circumſcribed within the ſpace of twenty-one days at fartheſt? The very innate heat and circulation, how languid ſoever, muſt counteract ſo haſty, ſo rapid a colliquation! In the obſervation that gave riſe to this enquiry, (Caſe 15,) we ſee the ſpace of more than three months intervene from the blow to his death; ſo long a time did the water take to accumulate! In that of the child, (Caſe 16,) the complaint began ſoon after parturition. At fifteen months old, ſhe was far from being exhauſted; in five years after, was alive and better; and at this day, (September 1789,) the tumefaction of the head is rather leſſened than encreaſed! The Doctor ſays, that ſtrong ſprightly children, are moſt expoſed to this complaint; but from the very nature of it, and from what we obſerve from its ſpontaneous formation, a coldneſs in the conſtitution, and a languor and ſlowneſs in the circulation muſt neceſſarily be pre-ſuppoſed. Beſides, he ſeems at a loſs how to diſcriminate between diſorders of this claſs, and theſe rapid fevers in children, in which the head is en-

gaged, which he gravely tells us proceed from worms! but worms in children, and nervous complaints in the more advanced ſtages, preclude all further enquiry, ſatisfy the public, and ſave the faculty a great deal of trouble and thinking. Had the reputation of Doctor Fothergill kept pace with his abilities, I ſhould not deſcend to make theſe ſtrictures.

Concuſſion of the brain, by a natural progreſſion of injuries communicated to the ſoft parts, becomes the next object of enquiry. To do this with greater preciſion, I judged an enquiry into the ſeats of the vital and animal faculties a neceſſary præcognitum——at leaſt as ſatisfactory a one, as the nature of the ſubject would admit of. Beſides, it might go in aid, to oppoſe the dangerous doctrine of materialiſm; and at the ſame time prove to the Surgeon, that an opening, when neceſſary, may be as ſafely made through the corpus calloſum, as through any other part of the brain, as it is here, that M. La Peronie places the ſeat of the ſoul. *

* Memoires de l'Academie Royale de Chirurgie, T. 2.

Concuſſions

Concuſſions of the brain, I have divided into three claſſes,——firſt, mortal concuſſions;——ſecondly, recovery, with inſanity; and thirdly, perfect recovery. In the treatment of this diſorder, I have totally rejected the uſe of the trephine; and although in moſt of the caſes I have produced, it will appear, that for very many years, I had adopted, as well in this diſorder, as in that of extravaſation of matter on the brain, the uſual mode of treatment, by profuſe evacuations; yet, a careful retroſpection of this practice, and theſe cool reflections which every honeſt practitioner muſt naturally make, ſatisfied me, that it was highly exceptionable. I have for ſome years paſt uſed evacuations very ſparingly. In this diſorder, it is the brain—it is the medulla oblongata, and the nerves proceeding from it, that are more or leſs injured; and I have uſed opiates, blended with the nervous tribe, with great ſucceſs, in curable caſes of this claſs. I have given my reaſons at large; and the informed and clear-ſighted practitioner will judge for himſelf.——

Though

Though I in a manner tremble, in making the following remarks on extravaſated matter and on concuſſions ; yet, as it appears to me a duty I owe to juſtice and to the public, I cannot ſuppreſs them. On a fair calculation, I do affirm, that TEN patients periſh from theſe two cauſes, for one who dies of a fractured ſkull ! An inqueſt is called on a perſon who periſhes from either cauſe. A Surgeon may probably be ſent for. He examines the head ſuperficially ; or may, perhaps, be directed to open the head, and examine more minutely the ſtate of the parts. He finds no fracture, tho, he may in ſome caſes find matter on the brain. He reports no injury done to the ſkull. The Inqueſt bring it in accidental death ; and at the following Aſſizes, the delinquent is acquitted, though the man viſibly dies of the injury, as another does of a gun-ſhot, or other penetrating wound. If I forget not, about twenty-three years ago, Balf and M'Quirk, who were convicted of the murder of a Mr. Clark, at the election for Middleſex, at Brentford, were both pardoned, becauſe on a repreſentation

ſentation to the King, by ſome medical gentlemen, who had the curioſity to take up the body after interment, it appeared, the ſkull was not fractured, though it had been proved on trial, that matter was found lodged on the brain! I have now diſcharged my conſcience, leaving it to Judges, to Surgeons, and to Juries, to act as they think fit, and decree in theſe killing caſes murder, or not.

Cloſely connected with this ſubject, is the doctrine of extravaſation; but this is by no means to be confounded with extravaſation from wounded pericraniums, of which we have already ſpoken. If I underſtand the different writers who have handled this ſubject right—and I have taken much pains ſo to do—the preſent ſubject alludes to extravaſation of blood, of lymph, or water, or of all combined, immediately, or ſoon after, ſucceeding to a violent injury of the head. It had been affirmed by ſome Members of the Royal Academy of Surgery, that on examination of bodies after death, who died with all the ſymptoms of concuſſion,

cuſſion, that nevertheleſs, in ſome, conſiderable extravaſations of blood had been found under the ſkull, in others none.—It became then a queſtion——What are the ſymptoms of mere concuſſion, and how to be diſtinguiſhed from concuſſion attended with extravaſation? It had been much wiſer firſt to eſtabliſh *the facts*: for it is a queſtion that has had a moſt pernicious tendency, with reſpect to the ſick, has made the operation of the trephine more indefinite than ever, and has thrown the doctrine of concuſſion into the utmoſt confuſion! It is now pretty well agreed on, that the concuſſion and extravaſation are different injuries, yet the ſymptoms of both are nearly the ſame; and Mr. Pott affirms, * that people have died with all the ſymptoms of concuſſion; yet, on inſpection, it became evident, that the cauſe was owing to extravaſation. The immediate loſs of ſenſe and of motion following an hurt on the head, is attributed to concuſſion. If theſe ſymptoms die away, and are ſucceeded by

* Pott on Injuries of the Head p. 181.

others,

thers, in two or three days they are decided proofs of extravaſation, and call loudly for the operation; yet Mr. Pott contends, that the ſymptoms of this laſt may ſo ſpeedily follow thoſe of the former, as not to be diſtinguiſhed from them, and therefore the trephine muſt be had recourſe to. Or indeed in other words, where the ſigns of concuſſion continue, in which the trepan ſhould never be uſed, they are now converted to ſigns of extravaſation, where its aid muſt be called in! But can the ſymptoms of concuſſion and extravaſation be at all compatible? I think not! Why does the loſs of ſenſe and motion ſo ſpeedily follow concuſſion? It is becauſe the ſkull has reſiſted the momentum and velocity of the body, as well as the dura-mater, and ſo the whole force is thrown on the brain and nervous ſyſtem. But in this *imaginary extravaſation*, the dura-mater muſt be ſeparated from the ſkull, the veſſels of communication between them, muſt pour out their contents, and the force of motion being thus broke, ſymptoms of concuſſion muſt be, at worſt, but light. But if any thing could eſta-

bliſh

bliſh this DANGEROUS DOCTRINE of extravaſation, it muſt be, where the force of motion has formed a ſeparation between the dura-mater and ſkull. Now fiſſures of the cranium have been as familiarly and as cavalierly treated of by almoſt all writers on the head, as fractures and concuſſions, and as if they were equally common; yet, in the whole courſe of my practice, I never met but a ſingle inſtance of this ſpecies of hurt; and the man died immediately or ſoon after, and the ſymptoms were theſe of concuſſion——though on opening the head, there was a ſenſible ſeparation of the dura-mater from the cranium, the length of this crack, yet no blood appeared, intervening (ſee caſe 25) again, where the dura-mater was moſt uncommonly ſeparated from the ſkull, and an almoſt unexampled depreſſion of this membrane and of the brain; yet, not a ſingle drop of blood was interpoſed! (Caſe 34.) To diſcuſs this intereſting affair, I have beſtowed an entire chapter, but it is my earneſt wiſh, that the reader in peruſing it, will have a reference to what is here

re advanced, becauſe it comes in aid to what as there omitted.

Having treated fully, and eſtabliſhed on unerring principles the univocal ſymptoms of theſe diſorders, in which the cranium is only the medium of conveyance, as convex glaſſes converge the ſun's rays to a fiery point, without partaking of its heat.—It now remains to conſider thoſe injuries ſuſtained by, and confined to the *ſkull* and their effects. To a certainty, the obſervations of writers, for more than half a century paſt, far from elucidating this moſt intereſting ſubject, have viſibly tended to throw it into greater confuſion, than it had been in. For inſtead of determining with *preciſion* the caſes in which an operation (in itſelf extremely painful and cruel, and in its conſequences dangerous) ſhould *only* be had recourſe to, they have ſo multiplied them, that ſcarce an hurt on this part, attended with untoward ſymptoms, that does not verge to trepanation. So apprehenſive of latent fractures being concealed under anomalous ſymptoms,

that

that different parts of the head are frequently laid bare, and trepaned for this ſuppoſed ANGUIS IN HERBA! But it will appear to demonſtration, that far from being in dread of latent fractures, there are numbers of viſible ones, that require *no operation whatever!* and this important fact eſtabliſhed, it is to be hoped will in future prevent theſe bold—theſe cruel experiments!

A fractured ſkull unattended with *concuſſion*, has for ſome days, no particular ſymptom to diſtinguiſh it, but what can be derived from the touch or the probe. Of courſe, anomalous, muddy and obſcure appearances will not, nor cannot be miſtaken for the remoteſt ſigns of fracture. The 13th chapter, with what has been ſaid above, will, I hope, for ever do away the ſuppoſed combination of concuſſion attended with extravaſation; and theſe facts eſtabliſhed, and the operation of the trephine confined to its proper ſphere, will appear, one of the moſt uſeful and certain medicines between life and death, that the ingenuity of man

man ever imagined! Fractured ſkulls I have diſtinguiſhed, *firſt*, into theſe with and without depreſſion. Theſe laſt, require no operation whatever: and I have illuſtrated *this moſt important truth* by a variety of proofs! Depreſſed fractures, where the operation cannot be diſpenſed with, I have divided into ſimple and compound. By the firſt, I underſtand theſe, where the bone has ſuffered a ſingle depreſſion; by the other, where the bone has ſuffered in more places than one; and I have purſued the ſubject by caſes in point in all theſe different injuries.

Whether it proceeds from the natural intrepidity and robuſtneſs of our people whoſe minds are not eaſily depreſſed, the purity of the air, or the goodneſs of our waters, which undoubtedly approach nearer to the pure element than any others I know of, * or let it ariſe

* Triumphius affirms, that the pureſt ſimple waters in Germany, yield four grains of extraneous, and indiſſoluble matter,

ariſe from any other cauſe whatever ;—the fact is that fractured ſkulls amongſt us, when attended to in any reaſonable time, are ſeldom or ever followed by fatal conſequences ; and that even when long neglected, the reſources of nature are aſtoniſhing ! It is for this reaſon that in Chap. 13, inſtead of giving a dull narrative of caſes of this claſs, I confine my account to only three, and theſe, more from the remarkable incidents that appeared, than from any other motive.

I conſider the operation of the trepan, as very cruel, a painful, and a dangerous one ; nor to be attempted without the cleareſt evidences of its neceſſity ; and which I think can never be miſtaken from the principles laid

matter, from a quart carefully evaporated. The late Doctor Hales affirms, that the Spring that ſupplies Hampton-Court, and one of the pureſt in England, affords but three grains of ſolid contents from a quart. Dr. Rutty has tried many ſprings, which gave even leſs than a grain from a pint ; and I have frequently evaporated a quart of the Shannon water, near the town, and at Caſtle-Connell, and never got MORE than a grain and an half of reſiduum from a quart !

laid down. It is on this account, that I condemn in the ſtrongeſt terms repetitions of it. There are very few caſes that can demand them, and theſe are pointed out. The moſt extended fracture, if confined to one bone, will ſcarce ever require a ſecond operation; and the remainder of this work is pregnant with the proofs. The 15th chapter treats of ſimple depreſſed fractures, that were not relieved 'till the ſymptoms of depreſſion ſtrongly marked their neceſſity. In the 16th, compound fractures are conſidered, in which the operation was recurred to, in the firſt inſtance, or before the ſymptoms of a depreſſed cranium appeared; and the 17th treats of ſimilar injuries, unrelieved, 'till the ſymptoms of depreſſion loudly proclaimed the neceſſity. The 18th gives ſome very remarkable inſtances of the ſucceſsful efforts of Nature, to relieve herſelf in theſe melancholy caſes. But, beſides all theſe, the method propoſed, and ſucceſsfully purſued by me for very many years paſt of preſerving as much fleſh as poſſible, in the clearing away the integuments, for the operation, muſt be at-

tended with very ſalutary effects, and contribute greatly to accelerate the cure. The great utility of managing the integuments with œconomy, will appear in a moſt ſtriking manner, in caſe the 54th. And I will be bold to ſay, that it is, for ſo much, the moſt remarkable Hiſtory that the annals of Surgery can produce! The uncommon ſucceſs attending all theſe caſes, has, I own, often aſtoniſhed me, as I dare ſay it will every fair and candid practitioner. I am vain enough to think, that the treatment of my patients *otherwiſe*, ſo widely different from that hitherto purſued by profuſe evacuations, muſt not have a little contributed to this great object. I have offered my reaſons for it; but as anomalous ſymptoms may ſometimes appear, which have no immediate relation to the original injury, they muſt be particularly attended to: Caſe 56, is the only inſtance of this kind I ever met with, and therefore I have given it in detail.

But conſidering that this great ſucceſs in the cure of fractured ſkulls, might infuſe too much confidence

confidence into young practitioners, and that in many inſtances, much precious time might be loſt; the 19th chapter contains a ſelection of caſes, in every one of which, the operation proved uſeleſs, by being too long delayed!

The laſt Chapter treats of fractured ſkulls, in which the membranes and brain have borne a part: and from what obſervations I have been able to make, I am much inclined to think, that if the ſuppuration of the brain be prevented, or even reſtrained, great hopes of recovery may be entertained. To a certainty, wounds of the dura-mater produce little additional danger, provided the patient be otherwiſe in a tolerable habit of body; and this proves to demonſtration, the ſafety of opening this membrane when neceſſary. The exfoliations from bare bones, or the ſcaling off of parts of the external or internal table, retard greatly the act of healing. Indeed, the unneceſſary quantity of the ſkull laid bare in trepaning, muſt expoſe it to much injury; and ſince I have adopted my method of uncover-

ing no more bone than is barely neceſſary for the inſtrument to work, I cannot recollect a ſingle inſtance of this complaint. But even when I made a more liberal uſe of the knife, I in general found it of no great conſequence. The reader will ſee the ſimple principles on which I have acted.

But beſides extravaſated blood under the ſcalp, matter and water formed on the brain, concuſſion and fracture, another injury of a moſt fatal tendency is, ſometimes, the conſequence of falls on the head. It has been unnoticed by writers; but from two inſtances falling to my own ſhare, in the ſpace of five years, I perſuade myſelf it is by no means uncommon———I mean a partial or incomplete diſlocation of the vertebræ of the neck——for a complete one, if not immediately relieved, muſt terminate in ſpeedy death.

I have not been able to give theſe caſes with all the accuracy that they merited; but

I have

I have ſtated them truely; and I think the ſmalleſt doubt cannot ariſe, but that a partial compreſſion of the ſpinal marrow was the cauſe of death in both. To profeſſors of Anatomy, I would ſtrongly recommend a due conſideration, and a further elucidation of ſo ſerious and important a ſubject.

*** THE kind indulgence of the Reader is requeſted for whatever Errors may appear in this Edition, as the Author's great diſtance from the Capital and other avocations, made it impoſſible to attend to theſe matters.

O'H.

Limerick, Auguſt 20, 1792.

CHAPTER I.

Simple inciſive wounds of the head, how to be treated—the ligature always to be avoided—the mode to be purſued, in contuſed and dilacerated ones, in which large quantities of the ſcalp are included—illuſtrated by two remarkable caſes.

IN all wounds of the hairy ſcalp, unaccompanied with fracture or depreſſion of the cranium, concuſſion of the brain, or injury to the pericranium, the ſame method of treatment is to be purſued, as in ſimple wounds in other parts of the body: but when by a violent injury, a conſiderable part of the ſcalp is raiſed, it requires a different kind of treatment, and therefore merits attention. In caſes like this, the ſuture is always recommended, and generally practiſed; but it is certainly a very condemnable mode, for every perforation of

the needle is a new violence offered to the parts; and every ligature an extraneous body. * It were to be wiſhed, that the ſewing up of fleſh wounds, was baniſhed from ſurgery in general; but in this part, they are particularly dangerous, as tending greatly to the increaſe of inflammation, in injuries of the head, always to be carefully avoided. In conſiderable bleeding wounds of this ſort, the parts ſhould be united by compreſs, dry ſuture, (if neceſſary) and by bandage only; nor for the firſt two or three days, ſhould we be over ſolicitous to make this union very cloſe, becauſe, the natural ſwelling and inflammation of the parts, will, in ſome meaſure, oppoſe it. Conſiderable wounds of this ſort, ſhould be brought to gentle contact; a little ſoft, unformed lint, may fill up the opening between the lips, and the whole covered with a pledgit of baſilicon; nor ſhould it be opened for three or four days, or till the diſcharge ſhews the ſuppuration eſtabliſhed, unleſs an hæmorrhagy, or other alarming ſymptom, intervenes. When ſuppuration

* Pibrac ſur labus des ſutures, mem. de l'Acad. de Chirurgie. T. 9.

is commenced, the lips of the wound ſhould, by bandage, and other aſſiſtance, be brought cloſer together, and ſo retained for three or four days more, according to the diſcharge and ſeaſon of the year; and by this means, a wound, ſeemingly alarming, and of great extent, will, in a few days, become very trifling.

But contuſed and dilacerated wounds of the ſcalp, require a different kind of treatment, and which, if ſteadily purſued, will alſo, with a little more time and care, be reduced to the ſame degree of ſimplicity as the above. I cannot illuſtrate better the practice I would recommend, than by preſenting to the reader the following caſes, and the rather, becauſe they were the moſt conſiderable wounds of the ſort I had ever ſeen, and therefore may be ſuppoſed to include the practice in every other poſſible misfortune of the kind.

CASE I.

The principal fuel uſed in this city, is turf, which is brought the diſtance of above fifty miles, by river ſloops, from about 14 to 20 tons burthen each, of which about 200 ply on the Shannon for this purpoſe.—One Mahony, the owner of one of theſe, the 20th of January, 1760, being in liquor, and attempting to get on board her from the Quay, his foot ſlipped, and he fell in, head-foremoſt: a very conſiderable dilacerated wound was the conſequence, which I ſoon after examined. It commenced a little above the orbit of the left eye, ſtretched over the coronal and parietal of that ſide, and terminated behind the left ear; the dilacerated ſcalp covered that ſide of the ear and face, and exhibited a very diſagreeable ſight. It bled ſmartly before I came, (which was about half an hour from the accident) and was beſides very foul and dirty. After waſhing the parts gently, in warm water and claret, I laid ſome large pledgits armed with baſili-

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con on the flap, and ſome ſoft lint, thinly ſpread on the head, then turned up the flap, and covered the ſpace, between the flap and ſound part of the head, with a large pledgit of the ſame baſilicon. I ſecured the whole in the following ſimple manner: I laid graduated compreſſes over the wound, beginning at the ear, and then with a band, made three circulars from the pole, round the head. To this band I fixed ſlips of linen, at the diſeaſed ſide, which croſſing over the different directions of the wound, were pinned from place to place at the oppoſite ſide. As he had already loſt ſo much blood, and was, beſides, ſtill a good deal intoxicated, I did not then bleed him, but had that operation performed next day, and again the day following. He took alſo at times powders, E. G. ℞. nitri purif. dr. duas, p. rad. jalap. ſcrup. duos M. and divide in chartul. 12, —theſe kept the body gently open; nor did I attempt to open the wound until the 24th, when the abundant moiſture of the bandages, proved ſuppuration well eſtabliſhed. I had ſome flannels wrung hot out of a decoction of the bitter herbs, applied to the parts to ſoften

the bandages; and after their removal, a few ſtupes more, and then removed the pledgits, &c. I introduced a much ſmaller one, armed with a digeſtive, between the flap and head, but without attempting to remove the flap, and with the diſcharge and ſtupe, a good deal of dirt was alſo removed. The 26th, and again the 28th, I dreſſed as above, but always leſſening the ſurface of the intervening pledgit. The 30th, I preſſed as gently as I could the *bare* flap on the uncovered parts, covered the whole with graduated compreſſes, wet in ſpirits, ſecured the band as above deſcribed. The 2nd of February, there was a firm coaleſcence in every part, but near the ear, where the diſcharge, ſtill mixed with dirt, continued a few days longer. The flap did not exactly cover the ſurface made bare, but the ſore was ſo trifling, as to require but a little dry lint and plaiſter; and in 26 days from the accident, he got a complete cure.

CASE

CASE II.

Michael Jones fell down the ſtone ſteps of a projecting cellar, in the evening of the 16th of November, 1784; the conſequence of which was, a very extended wound, ſtretching from the upper edge of the internal canthus of the right eye, over part of the coronal and parietal bones, and terminating behind the right ear. The flap hung over the cheek, was bruiſed, and very dirty, and exhibited a very frightful appearance; it bled freely before I ſaw it, and finding the bone no where bare, my chief attention was employed in returning the flap. I firſt had cloths imbibed in warm water and claret, which gently run down the ſore; I then ſpread lightly the ung. e gum. elemi, on book lint, on both ſides, which I laid on the uncovered part, and then turned up the flap, which was ſecured by plaiſter and band. Beſides a good deal of dirt that ſtill adhered to the flap, and on account of its contuſion, I conjectured it would require ſome days before an adheſion could take place. Next morning he

was bled, and I directed powders of nitre and jalap to keep the body gently open, and prevent the acceſs of fever. I did not open the ſore until the third day, when the moiſture of the bands informed me, that ſuppuration had commenced. I had the compreſſes ſoftened by ſtupes of the bitter herbs, and then removed the dreſſings, which were charged with a good deal of dirt; theſe were replaced by freſh ones, covered on both ſides, with ſome of the former digeſtive. I continued dreſſing in this plain ſimple manner for ſix days, when the flap appearing cleaner, and better coloured, I laid it exactly on the pericranium; and did not remove the bandages for three days, though they were moiſtened twice a day with ſome decoction of the bitter herbs, animated with ſpirits. In a word, in the courſe of twenty-three days, there was a firm adheſion of the parts.

CHAPTER

CHAPTER II.

Conſiderable extravaſations of blood on the cranium, from external injuries, without apparent hurt, how to be treated; and how diſtinguiſhed from emphyſematous, puffy ſwellings of this part.

THAT the ſkull may be fractured, without the outward covering being at the ſame time injured, is eaſily conceived; becauſe, we ſee every day, diſlocations, and extended fractures of the extremities happen, without the ſmalleſt injury to the fleſhy parts. But that, from a violent fall, or external injury, blood-veſſels creeping on the cranium, ſhould be burſt, and the very pericranium tore from its cloſe adheſion to the ſkull, without any wound, or even contuſion of the ſcalp appearing, is not eaſily accounted for. But, without deſcending to mechanical principles, to explain

theſe phænomena, let us proceed to what is infinitely more uſeful, a plain recital of matters of fact.

CASE III.

In November, 1767, John Evans, a labouring man, of about 35 years of age, attending the building of our new Cuſtom-houſe, fell from a ſcaffold of a conſiderable height; his fall was a good deal broke in the paſſage, otherwiſe he muſt have been killed on the ſpot. The right ſide of the head, was the part principally affected; and in ſome ſhort time after, he was brought to the Hoſpital, (where I then was) in a manner dead, and cold. The coronal and parietal bones of the right ſide, were conſiderably puffed up and ſwelled; and to the touch, and from the appearances, it would ſeem, as if both bones were rather cruſhed to ſmall pieces, than fractured. Eager to relieve the dying man, by removing part of theſe ſplints, which I did ſuppoſe, were preſſed in upon the brain,

I made

I made a large crucial inciſion on the integuments, which had not received *the ſlighteſt injury from the fall*, and a large iſſue of bright collected arterial blood burſt forth, from which he ſeemed to receive inſtant relief. All ſeemed to the touch, perfectly ſound underneath. The wound was dreſſed with ſoft unformed lint, covered with plaiſter, and the whole ſecured by proper bandage. In two hours after, he was bled largely, and I ordered him the ſaline mixture, with ſp. nitri dulc. and ſyr. de althea, to be taken at times, and a glyſter to be thrown up in the evening.—It may not be amiſs, once for all, to obſerve, that the decoction, I moſtly direct in theſe caſes, is, from an ounce and an half to two ounces of ſalts, diſſolved in about ten ounces of whey, to which a ſpoonful of ſweet oil is added; this is made with very little trouble, and its effects are ſpeedy and certain.—But to return, he paſſed a tolerably good night, was quite collected and compoſed, and finding the dreſſings to adhere very cloſely, I contented myſelf with a ſecond bleeding, and in the evening, another decoction, which, like the former, procured two large evacuations.

The

The following morning, the compreſſes, &c. were ſoftened by a ſponge and warm water, and the dreſſings removed; but on the cloſeſt inſpection, no fracture was found, though a branch of the external carotid was opened, and the pericranium, for above an inch, was longitudinally torn from its adheſion. The parts were again dreſſed with ſoft lint, and by way of precaution, more blood drawn from the arm. The 16th, being the eighth day from the accident, finding ſuppuration thoroughly eſtabliſhed, and the inflammation removed, I endeavoured to bring the parts into cloſer contact, by omitting the lint, as an extraneous body, from between them; and, in a few days after, the ſore was completely healed, and he diſcharged the Hoſpital.

CASE IV.

A young nobleman of great good ſenſe and erudition, as well as of exquiſite taſte, in October, 1769, in a hunting party, near Caſtlemain,

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in the County of Kerry, was thrown from his horſe, to a conſiderable diſtance, and pitched on his head; he was taken up ſenſeleſs and motionleſs, and carried to the houſe of the Revd. Mr. Godfrey, contiguous to the ſpot; when Mr. Murphy, Surgeon to the County Infirmary, and Doctor Caſey, were ſent for to Tralee, and Doctor Lawler to Killarney, all in the neighbourhood. An expreſs was at the ſame time, or ſoon after, forwarded to Doctor Shearer, and to me, requeſting our immediate attendance; though the diſtance was near 70 miles, yet we reached it very early in the morning of the next day. We found him heavy and comatous, with an hard, full pulſe, though twice largely bled in the interim. His head had been cloſe ſhaved, and on the right ſide of the parietal, near the vertex, was a large tumor, nearly as big as a middling inverted ſlop-baſon. To the touch, it ſeemed to contain a fluid, and I boldly aſſerted that it was extravaſated blood, though the integuments received no viſible injury. I propoſed an immediate iſſue of this blood, but it was oppoſed by ſome of the gentlemen, who ſenſibly obſerved, that

puffy

puffy tumors of the ſcalp, often ſucceed external hurts on the head, and in ſome time ſubſide, without the neceſſity of any operation. Though I agreed, as to the juſtneſs of their remark, yet, I obſerved, that the preſent caſe totally differed from any thing of that kind; for that in ſuch ſwellings, they generally ſubſided in a few hours, by the application of compreſſes, wet in ſpirits and vinegar, or in the vegeto-mineral water; whereas, in the preſent caſe, by report, the tumor rather encreaſed from the time of the fall: Doctor Shearer was of my opinion; and the other gentlemen then requeſted, that I would perform whatever operation I thought neceſſary. After acknowledging the compliment they paid me, without loſs of time, though greatly fatigued, I directly prepared my dreſſings, and made an opening on the tumor, of above two inches in length, when near nine ounces of florid, limpid arterial blood was at once received in a baſon. When the wound was cleaned, I examined with the utmoſt attention, the parts underneath. I found the pericranium torn from the ſkull, near an inch and an half, an artery wounded, which,

which, however, now afforded no blood, but the bone underneath free from any viſible injury. The other gentlemen who examined it after me, were of the ſame ſentiments, and I immediately after dreſſed with ſoft lint, with a plaiſter and bandage.

We agreed, that in an hour after, he ſhould be bled, but in the arm, and Doctor Shearer and I retired to take ſome reſt. On viſiting our patient, a few hours after, we found him much lighter, and more collected, and the comatous tendency ſenſibly abated; the pulſe, however, ſtill continued pretty full and quick, and that evening he loſt more blood, and a decoction was thrown in, which procured two or three plentiful diſcharges. He paſſed that night better than the preceding. The ſore was opened next morning, and being quite ſatisfied of the parts being free from fracture or depreſſion, the bare cranium was covered with ſoft lint, and over the wound, a digeſtive, with bandage and plaiſter. In a word, Doctor Shearer and I quitted our patient, after an attendance of nine days, being totally free from

fever, heavineſs of the head, or any alarming ſymptom whatever, and nothing remaining but a fleſh wound, which healed in ſome days after. He has ſince taken the tour of Europe, without ever having the leaſt reaſon to recollect this unlucky accident, and I truſt that his country will long benefit by his obſervations and abilities.

I have met with four caſes, much of the ſame nature, but nothing ſo alarming as the above: in two of them, after waiting a couple of days, I found myſelf under the neceſſity of opening the integuments, and about two ounces of grumous venal blood was diſcharged from each, but in neither inſtance, was the pericranium injured, and the wounds healed very kindly. Of the other two, one merits being recorded, as the ſymptoms were alarming, and as it may be a kind of criterion, to determine on the neceſſity of opening the integuments, or omitting it.

CASE

CASE V.

A journeyman watch-maker, in Jan. 1759, recevied a violent blow on the temple of the left ſide, which felled him, and he continued in a degree of inſenſibility for near an hour; preſently after, he vomited largely three or four times, and when I viſited him, which was an hour and an half from the accident, he complained of a violent head-ach, and puked whatever he drank: the external injury was nothing but a pretty conſiderable tumefaction of the teguments, which prevented me from judging with preciſion, what the injury might be underneath them. I contented myſelf for the preſent, with applying compreſſes, wet in ſpirits of wine, and vinegar to the ſwelled parts, and cauſing him to be copiouſly bled in the arm, which operation was again repeated next morning. The tumor was ſomewhat leſſened in ſize; the ſame dreſſing was continued, and

next day he took phyſic : the fourth morning, the tumor ſubſided, with every other alarming ſymptom, and in a couple of days after, he returned to his uſual occupation.

REMARKS.

Puffy emphyſematous tumors, are often the conſequence of contuſions on the head. In ſlight injuries, or indeed, in more conſiderable ones, they may be known by the touch, riſing ſuddenly, and yielding to the finger a ſort of crepitation ; but what makes the univocal ſign, is this—that by the application of compreſſes, wet in ſpirits, they ſenſibly leſſen, and in the courſe of three or four days entirely diſappear ; whereas, where blood is extravaſated, they rather encreaſe than leſſen——at leaſt, they do not ſenſibly ſubſide by theſe topics, eſpecially, if the extravaſation is conſiderable, as in the preceding caſes. M. Malaval was called in to examine a tumor of this kind, fifteen days after the accident, and which, in this time, could not be brought to diſperſe by ſpirituous applica-

tion ;

tions; he opened it, and the encloſed blood burſt forth with rapidity.—Mémoires de l'Académie de Chirurgie. T. 1. p. 345. But though in the recited obſervations, the evacuation of the blood, with bleeding and antiphlogiſtics, effectually removed all the ſymptoms, yet, I have no doubt, but many ſuch caſes may occur, which may be ſucceeded by more formidable ſymptoms—for inſtance, by inflammation and abſceſs of the dura and pia mater. But as in the next chapter, I ſhall give the certain diagnoſtics of this laſt diſorder, and point out the beſt, and moſt rational method of cure; I would ſtrongly recommend, to ſuch as may think the preſent one worth attention, to peruſe that alſo.

CHAPTER

CHAPTER III.

Of wounds of the pericranium—Inflammation of this membrane, not communicable to the dura-mater, nor the cauſe of abſceſs on the brain.—Injuries of the pericranium in general, not attended with very alarming ſymptoms, and illuſtrated by practical caſes.

IN my opinion, one of the greateſt obſtacles to the extenſion of philoſophical and medical knowledge—and indeed, to a proper exertion and direction of genius, is, drawing general concluſions from particular facts. But, until more Boyle's riſe, to the aid of true philoſophy, and more Sydenhams, to that of phyſic, it will ever continue to be the caſe!

In ſurgery, phyſiology is often admitted; but *here*, it in general is attended with no very dangerous conſequences; becauſe, though we may

may err in our inductions, yet, the facts, from which they are drawn, remain. However, on the ſubject of the preſent Chapter—*and a very intereſting one*—the principles generally received, with reſpect to matter formed on the brain, tending to eſtabliſh a mode of practice, in my opinion, very dangerous to the ſick, merits animadverſion.

Wounds and contuſions of the pericranium, in which the ſkull itſelf remains uninjured, ſometimes terminate fatally; and in every inſtance of this kind, matter has been conſtantly found lodged on the brain, or on its membranes. To account for this fact, the generally received opinion is, that the injury done the pericranium is conveyed, by means of blood veſſels, to the dura-mater, and thus pus becomes formed. Hence the neceſſity of profuſe bleedings and other evacuations, to prevent the effects of inflammation! But to give to this hypotheſis, a reſpectable degree of credibility, it ſhould be proved, that almoſt every injury of this kind, has a ſimilar termination, or is relieved by the treatment recommended,

and almoſt univerſally adopted. Now the fact is, that upon a general enquiry, it will be found, that *not* ONE *perſon out of* TEN, with wounded pericraniums, will be at all attended with alarming ſymptoms; and of the few who are, *not* ONE *in* TEN *will recover*, by the method of treatment generally purſued! Thus then, there are ten times more reaſon, both for rejecting the principles and the practice, than for adopting them!

But as a thorough refutation of this doctrine will be highly uſeful to our future practice, I ſhall examine it more minutely. In fractured ſkulls, is not the pericranium both wounded and diſengaged, particularly in the place of colliſion; and though trepanning is neglected or delayed for many days, do the ſymptoms attending matter forming on the brain, or the matter itſelf appear? *neither happens!* Again, in fractures, where the bone preſſes hard on the dura-mater, where this laſt appears manifeſtly injured, and relief has been long delayed, yet, no ſuch effect is produced! Symptoms of matter on the brain appear

pear in eight, ten, or twelve days, often ſooner; yet, inſtances will occur in the preſent work, where the dura-mater has remained longer in a ſtate of depreſſion, without either then, or at any other time, exhibiting ſigns of matter. If we could ſuppoſe an hurt on the pericranium could produce matter on the dura-mater; ſurely, when both membranes are injured at the ſame time, its formation ſhould be more ſpeedy and manifeſt? but no ſuch thing!

In general, wounds of the ſcalp and pericranium, when properly treated, are attended with as little danger, as violent injuries in other parts. I have already aſſerted, that not one caſe in ten of this kind, ends fatally. I now affirm (at leaſt, from my own practice), that not one inſtance in thirty will occur. In the courſe of above 30 years of painful obſervation, I was witneſs of but five deaths, from this ſpecies of hurt, and I am certain, I have ſeen more than two hundred caſes. In ſaying this, I claim no kind of pre-eminence, becauſe they were treated in a plain ſimple way. How

often

often do we behold violent wounds of the tibia, with a torn perioſteum do well, without alarming ſymptoms; nay, is not the bone itſelf, not only fractured, but frequently craſhed, and all is reſtored by bountiful nature? whilſt in other caſes, a caries or exoſtoſis of the bone follows a ſlight hurt; and ſurely, in theſe laſt inſtances, men of ſenſe will never reſolve them to any other, than a defect in the injured part, or a general defect in the conſtitution.

The ſubject is of great conſequence to the healing art, and of courſe to the public. I wiſh not to impoſe a new doctrine, but ſteadily to purſue truth. With Lord Bacon, I agree.—"*Non* "*fingendum aut excogitandum*, SED INVENIEN- "DUM, *quid natura faciat, aut ferat.*" If out of twenty ſevere hurts of the pericranium, nineteen do well, is it not more rational, to attribute the fatal caſe to the habit of body, as we ſee often happens to injuries on other parts? If I am right, in this aſſumption,—as I think I am——then, (as we have, for ſome days, no certain

certain ſymptom to diſcriminate between the good and the bad caſes) will thoſe profuſe evacuations and antiphlogiſtics, ſo earneſtly recommended, and ſo *long and ſo unſucceſsfully* purſued, be omitted? nay, they muſt appear highly improper. To prove how nugatory the ſuppoſed conſequences ariſing from the communication between the pericranium and dura-mater, are, I have, out of a great variety, ſelected but three caſes in point.

CASE VI.

IN January, 1761, I was requeſted to viſit a ſervant of Mr. O'Grady's, of Capper Cullin, who that morning fell from a ſtable-loft of a conſiderable height, on his head: he was immediately deprived of all ſenſation, with a ſlow, regular, and equal pulſe; and thus I found him in about four hours after the accident. He received a conſiderable jagged wound on the ſuperior part of the parietal of

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the left ſide, with a dilaceration of the pericranium, ſo that the ſkull was bare for a large extent. Both eye-lids of that ſide were ſwelled, and diſtended conſiderably, and all black, as if from extravaſated blood. I removed the contuſed lips, and laid more of the pericranium bare, not doubting, but I ſhould find an extended fracture; but after the cloſeſt examination, I found the ſkull uninjured. I then attributed the ſymptoms, either to a concuſſion of the brain, or (which ſeemed more likely) a rupture of ſome internal veſſels, and which the ſtate of the eye-lids ſeemed to countenance. My prognoſtic was far from pleaſing; I however, opened the jugular of the affected ſide, which bled freely; for, on the accident, he had been bled in the arm. I preſcribed alſo a julep, compoſed of the ſaline mixture, and mint water, with ſp. nitri dulc. ſyr. de althea, and tinct. caſtorei, and ſoon after a decoction was thrown up, with good effect. He paſſed a bad night, moaned much, and had his hand conſtantly on his forehead. Next morning, I directed another bleeding, and a continuance of the above remedies; but at the ſame time, informed his friends,

friends, that if I did not find ſome amend-ment by evening, I would trepan him that night, or, at furtheſt, next morning. He ſeemed, however, in the evening, more compoſed, endeavouring to open his eyes, and made ſome ineffectual attempts to ſpeak, which were with me, reaſons ſufficient, to wait the iſſue of that night. Another decoction was given, which procured ſome calls. Next morning he was ſenſibly better, ſpoke pretty diſtinctly, but complained greatly of his head, which, as he expreſſed it, was ready to ſplit, and there was one who conſtantly ſat behind him, with his hands to preſs the fore and back part of the head, which was the only relief from his pain he could find. As the lad was but delicate, and rather ſunk from the evacuations he had, I judged a further uſe of them, would rather hurt, than ſerve, as deſtroying the native force. I directed light broth, and ſpoon meats, with a little wine to be given him; and at the ſame time, ordered a decoction of the bark, with elix. vitriol. dulc. to be given often in the day, for the wound was very conſiderable, and in-

dicated

dicated a neceſſity for this alteration. The fifth morning from the accident, he was ſeized with a bleeding at the noſtril of the affected ſide, which continued near an hour, during which time, he loſt, as near as I could conjecture, about four ounces of blood. All that day, the head was eaſier, and the tumefaction of the eye-lids (which at every dreſſing, were endeavoured to be reſtrained by compreſſes, wet in ſpirits, and by bandage) were leſſened. The morning of the 6th day, his head-ach was very violent, but again abated, by a ſecond bleeding at the noſe, in which about two ounces were diſcharged. The 7th, and every morning, to the 12th, the head-ach returned, but rather ſlighter, and was regularly carried off by a ſlight hæmmorrhagy, from the noſe. From that day, he had no complaint, but from the ſore; and about the middle of February, he returned to his ſervice, quite well, and ſo has continued.

CASE VII.

PETER MEEHAN, aged 19, on the 17th of March, 1786, received ſome blows on the head, and a cut of an hanger on the upper part of the right parietal, which wounded the bone, but did not penetrate the two tables. He bled profuſely on the accident, and I did not ſee him till next morning. The lad, though ſtout and ſtrong made, yet, was of a pale complexion; and finding no indication for it, I omitted having him bled; but directed powders of nitre and jalap, to keep the body open. Things went on very promiſing for about ſeven days, when the appearances in the wound, began to alter for the worſe; with an incipient œdematous ſwelling round the parts, and a ſlight ſickneſs of the ſtomach. After dreſſing the ſore, I had the ſide of the head covered by a compreſs, wet in a mixture of———

Rec. Sp. roriſmarini unc. ſex. ſp. volat. arom. dr. tres m.

and

and to be refreſhed every three hours. I, at the ſame time, preſcribed the following———

Rec. Opii ſolidi gr. quatuor.

p. rad. ipecacuana, gr. nona.

p. cort. peruvian. dr. & ſemis m. & divide in chart. tres.

one of theſe powders he took that night, at bed-time, with a draught of light wine whey: he perſpired, and urined plentifully, and paſſed a tolerable night. The ſore looked better next morning, as were his ſpirits. He, however, took a ſecond doſe that night; the ſwelling totally diſappeared; ſome light exfoliations followed, and he was well in the courſe of five weeks.

CASE

CASE VIII.

NOVEMBER 18, 1780, Michael Ives, a ſtout, robuſt man, of about 35 years of age, recommended by Lord Kingſborough, was admitted into our Hoſpital. About twelve days before, he fell from a cart, head-foremoſt, on a large parcel of ſtones, and the conſequence was, a large contuſed wound, on the ſuperior and middle part of the left parietal: the bruiſed parts had, in the interim, ſloughed off, and exhibited a wound of more than three inches long, and above an inch broad in many parts. In ſome parts of the wound, the pericranium was detached; in others, it adhered; in ſome places, puckered up, but every where, *quite black!* with this formidable looking wound, and ſcarce covered by a dreſſing, he preſented himſelf, and ſeemed as careleſs and indifferent, as if nothing ailed him. He would ſuffer no evacuation, except a little opening phyſic. I paid great attention to the caſe, and watched

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the ſymptoms cloſely: the diſcoloured pericranium I ſaw evidently, proceeded from no pre-indiſpoſition of the parts, but from the violence of the hurt, and an abſolute neglect of dreſſing, or keeping the parts clean. The wound began to digeſt kindly; the pericranium in a few days, was quite ſeparated, and the ſkull aſſumed that freſh, reddiſh appearance, which prognoſticated a new and ſpeedy covering. Some ſlight exfoliations however took place; and he was diſcharged, cured the 25th of January following.

I have ſelected theſe three caſes, from a much greater number; becauſe, two of them exhibited as formidable appearances, as can be well ſuppoſed, of injuries done the pericranium; and yet, it is evident, that the dura-mater in no ſhape partook of them! In the firſt inſtance, to the injury done to the pericranium, there were added, the ſymptoms of a commotion of the brain, and, I think, almoſt to a certainty, of a rupture of ſome blood-veſſels; and yet, we ſee, it was not attended with any

one

one ſign of the formation of pus, on the dura-mater. The very great loſs of ſubſtance, and black diſcoloured ſtate of the pericranium, in the caſe of Ives, prove, that very violent dilacerations and *gangrene* of this membrane may happen, without the dura-mater being in the leaſt injured; whilſt, in the caſe of Meehan though the injury done the membrane was by an inciſive inſtrument—the leaſt likely to be followed by diſagreeable conſequences—yet, diſtant ſigns of matter, forming on the brain, began to appear, and probably would, in a few days, become very formidable, were they not ſo ſeaſonably attacked.

When theſe caſes are attentively conſidered; and when we ſhall peruſe thoſe that ſucceed them, in which the injury done the pericranium was not near ſo great, yet, followed by matter on the dura-mater, and by death; where ſhall we explore the cauſe, ſo ardently wiſhed for? A little reflection, in my mind, will ſettle this whole affair, add *new dignity to the profeſſion of Surgery*, and be the means of ſaving many lives!

If a perſon with a wound, an ulcer, or a fractured limb, the extent of which we can aſcertain, has untoward ſymptoms : If the wound does not digeſt : if ſoft fungou fleſhs ſprouts up, or gangrene appears ; we reſolve the ſymptoms into the habit of body, not into any latent injury, and accordingly attack it. To bring this reaſoning home to our preſent purpoſe—when a man receives a wound, or an hurt on the head, in which the pericranium is, or is not, engaged ; unattended with ſymptoms of fracture, or concuſſon, what are, and what ſhould be the indications ? certainly, no more, nor leſs, than to bring on a ſpeedy cure. If the patient is phlethoric, veneſection is undoubtedly neceſſary, and to be repeated, as the ſymptoms require, and no more. Opening phyſic is alſo requiſite, with a regimen, adequate to the habit of body. Evacuants are by no means to be uſed indiſcriminately ; and the ſores to be dreſſed in a light eaſy manner. But, ſhould it in ſome days aſſume a bad appearance, then, and *not before*, we are to have recourſe to ſuch means, as are moſt likely

likely to check its progreſs; but theſe, by no means, conſiſt in powerful and repeated evacuations, ſo long recommended, and ſo unſucceſsfully purſued, as will abundantly appear, by our propoſed method of cure.

CHAPTER

CHAPTER IV.

A Selection of Caſes, in which the general mode of practice in wounded pericraniums was ſteadily purſued, with their ſucceſs.

CASE IX.

IN June, 1768, John Bourke, a journeyman cabinet-maker, going home, in liquor, late at night, took hold of the bridle of a gentleman's horſe, juſt ſetting off for the country, who was converſing with another. On this inſult, (as he deemed it) he ſtruck the man a ſevere blow of his whip, on the right parietal, and he directly fell, and the gentleman rode off, without thinking further of the matter. He was dreſſed at the Hoſpital, for ſome days, and finding no great inconvenience from the ſore, he went regularly to his work. But the 10th day from the wound, he grew heavy and liſtleſs,

liſtleſs, with a ſickneſs at ſtomach; this was ſucceeded in a few hours, by a ſevere ſhivering, as if in an ague fit, and a ſmart fever followed. The 11th, the fever encreaſed, with a kind of ſtupor; both of which were greatly aggravated the next day, when I ſaw him, for the firſt time, by particular directions of the offender. I propoſed to the perſon, to whoſe care he had been committed, the application of the trepan, and a large bliſter to the poll; both of which were rejected; and he died the morning of the 14th. As a trial for life muſt be the conſequence, I, in the preſence of the chief magiſtrate and the jury, examined the wound, and then after a circular ſection with the ſaw, raiſed the roof of the ſkull, from below the wound. The wound was about an inch and an half long, and the cranium laid bare for this length, but no fracture! On examining the internal parts, the dura-mater was of a duſky black colour, for about two inches, under, where the hurt was received on the outſide integuments, to the right orbit, *and detached from the cranium this whole length, but no where elſe.* No ſign of injury to the bone ap-

peared either in its external, or internal ſurface. On opening the dura-mater, where diſcoloured, above two large table ſpoonfuls of a laudable pus appeared, lodged on the pia mater, which was the evident cauſe of his death.

CASE X.

IN the end of November, 1769, Dennis O'Connor was admitted into our Hoſpital, for a conſiderable wound on the left parietal, by a blow of an hurl, in which the pericranium was engaged. The injury was received five days before, and the man had been twice bled in the interval. The wound was well conditioned, the diſcharge, moderate and kind, and he was exempt from fever, or any kind of alarming ſymptom.

He was, however, bled again, in about two hours after admiſſion, and next day, took a lax-

ative

ative mixture, which operated moderately. The ſore was dreſſed with ſoft dry lint, covered with plaiſter and bandage, and he was up, and dreſſed, in his room or ward. On the evening of the ninth day, *from the hurt;* he grew low, complained of an heavineſs in his head, and ſickneſs at his ſtomach. This was ſucceeded by a violent ſhivering, followed by a rapid fever, which carried him off in two days. Curious to be acquainted with the cauſe of his death, we opened the ſkull, in leſs than two hours from his diſſolution. The cranium was perfectly ſound, over and under the wound, but the dura-mater, for the length of three inches, underneath the ſore, and towards the orbit, was detached from the cranium, and covered with about two table ſpoonfuls of well-digeſted matter, which had paſſed from the pia-mater, through an opening in the former. The dura-mater was alſo of a dark browniſh colour, for this extent, but no other remarkable appearance was exhibited in this caſe.

CASE

CASE XI.

A Servant to Mr. Weſtrop of Atty Flin, was in September, 1771, received into the Hoſpital, having been thrown from his horſe, near this City, by which misfortune, his right thigh was fractured, with a large wound on the parietal of that ſide, in which the pericranium was comprehended. It need not be ſaid, that in this caſe, large veneſections, diluters, & a low regimen were ſtrictly obſerved, becauſe the fractured thigh alone, demanded ſuch treatment. He nevertheleſs, the tenth day, grew low, complained of ſickneſs at ſtomach, had rigors, and fever, and died the 13th.—It was debated, the morning of the 11th, to have recourſe to the trepan; but the fever was ſo rapid, that we concluded, it would rather have haſtened his death. The cranium was here alſo ſawed through, ſoon after his death, and the parts underneath, exhibited exactly the ſame appearances, as in the caſe of O'Connor.

CASE XII.

IN the beginning of the following month, one Hallinan, a butcher, in a riot, received a blow of an hanger on the left parietal, in which the ſcalp and pericranium only were injured. It ſeemed for ſome days, of ſo little conſequence, that he was moſtly abroad; but the tenth day from the hurt, he became heavy, complained of ſickneſs at his ſtomach, was ſeized with tremors, and fever. The 13th I was requeſted to viſit him, for the firſt time, and, on conſultation, recommended the trepan, which was directly applied. In the centre of the perforation, the dura-mater was viſibly diſcoloured the breadth of a ſilver ſix-pence, and I recommended to have it opened, which, however, was not done. The next day, his fever and ſtupor very ſenſibly encreaſed, no diſcharge whatever came from the trepan, and he died the day after. But though I have mentioned a ſtupor, to attend all the preceding caſes, yet,

I would

I would not have it underſtood, that a privation of the ſenſes was the conſequence. By no means; for all theſe people retained their ſenſes and recollection to the hour of diſſolution! In opening this young man's head, there was a conſiderable collection of pus, under the dura-mater, ſtretching towards the orbit, and this laſt membrane ſeparated from the ſkull, and diſcoloured the whole length; but no injury whatever appeared to have been done the cranium.

CASE XIII.

Mr. S. G. an Attorney of this City, happening to fall into company, with a wrong-headed fellow; a diſpute aroſe, and he received a violent blow of a ſtick on the head, and ſoon after, fell into the area of an houſe—this happened late at night, on the 17th of March, 1773. I was called to him early next morning, found a large deformed contuſed wound; on the poſterior and lateral part of the left

parietal,

parietal, in which the pericranium was ſlightly engaged. I enlarged this wound, in different directions, the better to judge of the ſtate of the cranium ; and by the conſequential bleeding, to reduce the wound to a greater degree of ſimplicity. No appearance of fracture could be traced : he was ſoon after dreſſing, bled ; and powders of nitre, magneſia, and jalap, were given, in ſmall doſes, every two hours, with ſome of the ſaline julep, to promote the urinary ſecretions, and keep the body gently open ; and he was beſides enjoined a ſtrict low regimen. Towards evening, the whole head ſeemed a little inflated, and next morning, a conſiderable oedematous ſwelling appeared. As the head had been cloſe ſhaved, ſoon after the hurt, to diſſipate this ſwelling, I had the entire head covered by compreſſes, wet in a mixture of good brandy—for example, to an half-pint, I added half an ounce of ſp. volatil. aromat. and I directed the powders to be taken ſo often, as to procure three or four ſtools in the day. As to bleeding, the nature of the ſwelling ſeemed to me, to preclude it. The 20th, the wound clean, and well-conditioned :

he

he was free from fever, head-ach, or any alarming ſymptom, as, indeed, he had been from the beginning. He was ſtill kept low, and had this day five ſtools. The 21ſt, the ſwelling in the integuments, almoſt diſſipated, and he complained of the ſeverity of his regimen, and of his being confined to his bed, both which he thought unneceſſary. The 22d, the wound made great advances to heal, and yet, through precaution, I judged another bleeding neceſſary, which, with much difficulty, was ſubmitted to; he was ſtill kept low, and continued his opening cooling powders. The ſame regimen was ſtrictly purſued, and he again bled the next day; and, to ſatisfy him and his friends, of the prudence of this practice, I mentioned caſes, which, like his, went on very happily for many days, and yet, terminated in death, moſt probably, for want of ſuch precautions. Things went on happily to the 29th, and he up and dreſſed, for four days before. On dreſſing that morning, ſomething in the appearance of the wound, did not pleaſe me. It appeared not ſo florid, nor the advances to heal, ſo much as might be expected from the preceding dreſſing.

It was, however, ſo little, that a leſs accurate obſerver than I, might let it paſs. About two hours after, he was attacked with an head-ach, ſickneſs at ſtomach, and puking followed ſome time after. At two o'clock, he was ſeized with violent ſhiverings. I was then ſent for, but being otherwiſe engaged, did not ſee him till four, when I found him, though up, attacked with a ſmart fever, for which he was plentifully bled, and a glyſter thrown up in the evening. The 30th, the fever no way abated, and I deſired Surgeon Mahony to be called in, aſſured, that matter was forming under the ſkull. On preſſing with my finger, round the orifice of the ſore, ſome matter puſhed forward, and ſeemingly from ſome diſtance. I directed my probe to this ſinus, and at about an inch and an half from the wound, and near the longitudinal ſinus, I felt the cranium bare. I directly laid the parts open to this place, and ſcalped there, but found the ſkull free from injury. I muſt remark alſo, that this day, the ſore was ſenſibly paler, and the probe could paſs freely through parts, two or three days before, very firm. This appearance of matter, with the

ſcalping,

ſcalping, and a large bleeding, we hoped, might abate the ſymptoms. The blood was highly buffed, which it was not before; and, in the evening, he got a decoction. The fever, however, continued; and next morning, the cranium was bare a little further, to which I extended the inciſion; but the ſkull was very firm. He complained of a ſtiffneſs, pain, and ſwelling in the neck, and of a very violent pain inwardly, from the centre of the wound, towards the left eye. A new appearance this day, made the application of the trepan be again delayed. On preſſing round the integuments, above a table ſpoonful of a thin oily matter, poured into the ſore, and this being deemed a kind of metaſtaſis, it was hoped that the fever, and other ſymptoms might leſſen by it. He was again blooded, and took a decoction. April the 1ſt, the pain in the head, and towards the eye removed, and the ſtiffneſs and pain in the neck greatly abated, and theſe were made a further pretence, for delaying to trepan; but the fever was ſtill rapid. The application of the trepan again propoſed, but put off. The 2d, the ſore put on a better appearance, he paſſed

the

the night more compoſedly, but the pulſe ſtill continued quick, though much lower. The 3d, ſome more of the oily matter already mentioned, was preſſed into the ſore, the pulſe ſtill quick, but lower; about two o'clock, ſeemed dozed and ſtupid, and breathed very ſhortly, but nevertheleſs, very clear in his intellects. That night, he grew viſibly worſe, and died about 12 o'clock next day. At two, I opened the integuments, and ſawed round the ſkull, and laid the parts bare for inſpection, in the preſence of the Magiſtrate, and a Jury aſſembled for that purpoſe; but whilſt I was with an elevator, raiſing up the cranium, the ſtench that iſſued from within, was ſo intolerable, that they all quitted the room, and I was obliged to have the windows opened for pure air. I found the inſide of the bone daubed with yellow matter, but upon waſhing and cleaning it, could perceive nothing that could indicate the ſmalleſt injury done to it. The dura-mater, exactly under the wound, and extending to the left orbit, was thickened of a browniſh yellow colour, covered with the ſame fœtid matter, and eaſily broke through by the probe, the

whole

whole extent of the diſeaſed parts. Between it and the pia-mater, more pus was lodged, and it appeared to me, that the matter between the dura-mater and cranium, had paſſed through a natural opening, cauſed by the inflammation and pus.

The ſenſible Surgeon, after peruſing this caſe, will naturally aſk, why I did not trepan my patient, on the firſt appearance of the ſymptoms, having ſo many preceding inſtances, to juſtify the neceſſity of this practice? I called in another Surgeon, with no other intent: I have detailed the reaſons, that cauſed the operation to be delayed: his friends ſeemed averſe to it: a trial for life, was to be the conſequence of his death; and, if I perſiſted in my reſolution of trepaning, it might be inſinuated, if not ſucceſsful, that the very operation cauſed his death. It was not very long before this, that ſuch a report was propagated, on another occaſion. Two notorious rioters, (ſoldiers) in company with others of their fraternity, carrying their ſide-arms, came into a beer-houſe, in the moſt public part of this city, demanding liquor. The

rooms were filled with different people, regaling themſelves, after the day's hard labour; ſo that they could not be ſerved with liquor; nor did the publican wiſh to ſee ſuch gentry reſort his houſe. A ſcuffle enſued: the man of the houſe, and his wife were ſtruck; the different companies inſulted, and ſome of them wounded. One poor fellow, in particular, was moſt cruelly treated; and amongſt other hurts, he received on his right elbow, (thrown up to cover his head) a wound of a back-ſword, which extended about three inches on the ſide of the humerus, and wounded both radius and cubitus, at their articulation with that bone, ſo as to want little of a total diviſion of the parts. In this condition, the man was brought to my houſe, and after dreſſing, and conſidering the caſe a very deſperate one, and that the lives of three people were intereſted in the event—that the patient was very poor; without knowing any thing more of him, I, as a Governor, put him into the Hoſpital, and charged myſelf with his attendance! though the caſe was a very deſperate one, yet, I hoped to be able to ſave his life, and even limb too, (as experi-

ence, both before, and ſince has proved) provided I was aſſiſted by a good habit of body. This happened not to be the caſe; and though I invited the Surgeon of their regiment to attend the dreſſings, and had, beſides three different conſultations on him, in the laſt of which, it was agreed to amputate, which I reluctantly complied with, as the bad condition of the ſore ſhewed, that a more formidable one, could not help to make things better. The man died, and it was induſtriouſly whiſpered about, that delaying amputation was the cauſe of his death. The two murderers were nevertheleſs condemned by their country; but they were pardoned by Government. Indeed, this tenderneſs for the military, at ſuch a diſtance from the Capital, will not ſeem ſurprizing, when it is recollected, that, even THERE, *and, under the eyes of Government*, they have twice, and at no great diſtance of time, in the middle of the day, broke open the priſon of Newgate, with impunity, by which means, ruffians of all deſcriptions were let looſe on the public!

CHAPTER

CHAPTER V.

Signs of the formation of matter on the brain. Diſorders of this claſs, generally fatal—the general mode of treatment, to the laſt degree, improper—A new method of practice ſtrongly recommended.

THE Diagnoſtics of this diſorder, I think may be collected from the caſes already deſcribed. We will, however, bring them into one point of view—When a perſon receives an injury on the head, with, or without, a wound of the integuments; without ſtupor, or loſs of ſenſe—But (ſuppoſing theſe to happen at the inſtant, which diſappear very ſoon after)—free from fever, or other alarming ſymptoms: if he, in the courſe of eight, ten, fifteen, or even twenty days after, ſhould ſuddenly be attacked with nauſea and puking. If the ſore, (if any ſuch) from well-conditioned, ſhould aſſume a more languid appearance, becomes pale, the pe-

ricranium detaching from the ſkull; if horrors and rigors ſhould come on, with a ſmart fever, pain in the head, and ſtiffneſs of the neck, I deem them certain ſigns of matter being formed on, or *under the dura-mater*, *on the brain itſelf*, *or in its ventricles*. But, to me, the moſt univocal ſigns appear to be, the wound's growing ſuddenly leſs florid, œdematous ſwelling of the integuments, ſinuſes forming, where none appeared before, the pericranium looſening with tremors and fever.

As to the prognoſtic of this diſorder, it muſt be to the laſt degree unfavourable. The five recited caſes, of matter formed under the ſkull, ended all fatally, though in them, the moſt generally adopted practice was purſued, except not trepaning, but in one inſtance. In eleven caſes, related by Mr. Deaſe, * in a very ſenſible Treatiſe, lately publiſhed, in which, matter was collected under the cranium, and, in ten of which, the operation was performed, one only recovered. Of five caſes, given by Le Dran, †

* Obſervations on wounds of the head.

† Obſervations de Chirurgie, T. 1.

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in which matter was formed under the cranium, they all died, and ſo in proportion, in other writers.

CURE.

IF bleeding, and the other evacuations, ſo ſtrongly recommended, and ſo ſteadily purſued in all the above caſes, could, in any degree, prevent the formation of matter on the brain, or on its membranes, no doubt, but we ſhould have more inſtances of the ſucceſs of this practice. They in no ſhape anſwered the end propoſed. They neither prevented the acceſs of tremors, head-ach, and fever; nor when theſe attacks came on, did they in the leaſt yield to theſe remedies! theſe are incontrovertible proofs, which muſt convince every man of ſenſe and reflection, that this mode of treatment, ſo highly recommended from all antiquity, and ſo religiouſly adhered to, to this day, muſt be defective. Let me conſider this whole matter, *not as a ſervile copyeſt and imitator, contributing to transfer errors from age to age, but as a*

man of ſcience, an adept in his profeſſion, whoſe motto is, Nullius addictus jurare in verba Magiſtri !

In all acute caſes, the pulſe and ſymptoms are to be the phyſician's guide. He will not treat a man for a ſlight cold, with the ſame ſeverity, as if for an inflammation on the lungs, though ſuch complaint may be the precurſor of the diſorder ; nor ſlight pains in the limbs, like an inflammatory rheumatiſm. A common opthalmia will be treated very differently from a chemoſis, notwithſtanding that it may degenerate into one. In ſhort, it is only the aggravation of the ſymptoms, that directs the prudent practitioner. To bring theſe reaſons home to our preſent purpoſe. Two men receive wounds on the head, with hurt to the pericranium in each. The injuries are nearly ſimilar. The one is treated according to all the rules of art, as was the caſe in the preceding obſervations. The other gets his head dreſſed once a day, or, perhaps, once in two days, at an apothecary's, eats and drinks, and follows his uſual occupation. The firſt, in ten or twelve days,

in

in ſpite to all precautions, is attacked with ſymptoms of extravaſated matter on the brain, and, to the diſgrace of phyſic, dies ; whilſt the other, perhaps, gets quite well of every complaint in that period ; all theſe evacuations, with a ſevere regimen, having neither prevented the attack, nor leſſened its violence, when it appeared !

This mode of treatment appears then highly exceptionable. But what is the object propoſed by it ? To prevent the formation of matter on the brain, which in numbers of inſtances, without ſuch aid never happens. Becauſe, in bad habits of body, a ſlight wound, or contuſion, is attended with alarming—often with fatal ſymptoms—does it follow, that in every injury of this kind, active ſtupes and poultices, high diet, cordials, and the bark, are to be brought in, to aid nature ? ſurely no ! But if it ſhall appear—and I think it will appear, that theſe profuſe evacuations, rather injure, than ſerve the cauſe for which they are intended ; will not this be ſtill a ſtronger reaſon to reject ſo pernicious a practice ? that this is the caſe,

the

the following reaſons and facts, will clearly evince.

In all hurts of the head, which terminate in matter, on the meninges of, or in the brain itſelf, ſome, or in general, all the following appearances occur in ſome days after the hurt.—An œdematous ſwelling of the integuments—the wound grows paler, the ſurrounding fleſh ſoft and lax; the pericranium looſe, and eaſily detached from the ſkull; ſhiverings and fever, &c. Theſe on the very appearance of them, exhibit no proofs of inflammation; and the ſhivering in particular, proves it to be a tranſlation of matter, a metaſtaſis only; becauſe ſuch ſymptoms never precede inflammation. That this is the caſe, we will ſtill more readily acknowledge, when we reflect, that in two or three days after the acceſs of the fever, the patient often dies, and on diſſection, matter is formed on the brain, which it is not eaſy to conceive, could happen, in ſo ſhort a time, eſpecially in ſuch a place, was this matter the conſequence of inflammation. But a point worthy the greateſt attention is, that extravaſated matter,

following

following hurts or wounds in other parts, produce ſimilar ſymptoms; and Surgeons of eminence diſtinguiſh in theſe caſes, them into *primary* and *ſecondary*; that is, that if in ſome days after the injury, when the uſual ſymptoms immediately attendant have ſubſided, and new ones appear, ſuch as *ſickneſs at ſtomach*, *puking*, *ſhiverings*, *fever* and *inflammation*; all theſe are noted as conſequences, of the extravaſation.

But it may be objected—and ſomething like it has been advanced, to ſupport this doctrine—that ſuppuration on the dura-mater may happen, with no great degree of fever or inflammation. But as it is a ſubject, highly intereſting to mankind, and that, as I have no other objects but truth and this in view, in the preſent inveſtigation, I ſhall produce ſome caſes in point, to this queſtion.

* M. Petit dans les Mémoires de l'Académie de Chirurgie, T. 1. and 4.

CASE

CASE XIV.

PATRICK FITZGIBBON, Brogue-maker, preſented himſelf at the Hoſpital, the 2d of November, 1779. An abſceſs had formed on the upper part of the os frontis, near the longitudinal ſinus. It had broke two days before, and on examining, I found the ſkull bare, for an inch and an half in length, and nearly an inch broad, reaching to the parietal bone. On dilating the wound, an opening appeared at its inferior part, and through it, the dura-mater was ſeen, covered with yellow pus, and in plenty. I abſorbed with ſoft lint on a probe, a good deal of this matter, and removed about half an inch of the integuments, ſo as to have a fair opening to this cavern. I found the denudated part of the bone pretty looſe, through this extent, and introduced between the dura-mater and it, ſome pledgits of lint, ſecured by thread, as well to abſorb the pus, as to aſſiſt in ſeparating it from the ſound parts. I wanted him to come into the Hoſpital, but he declined

it;

it; but I charged him to attend every morning, and on the ſpot, took a note of his lodging, to enquire after him, in caſe he did not appear. He attended diligently every day; and for ſome time, not leſs than a table-ſpoonful of matter diſcharged from the dura-mater, at each dreſſing. By gently moving the bone from ſide to ſide with a forceps, it became ſo looſe, as by the 12th, to ſeparate entirely. It was an inch and an half long, and about an inch broad, and very thin, honey-combed and jagged, in its inferior or internal part. From this place, another ſeparation had been forming, towards the forehead, of above an inch in length. I removed about half an inch of the looſe integuments; ſo that the outſide wound, was not near ſo extended, as the injury of the bone. In eight days more, this laſt piece alſo came away, both which I have preſerved. The bare dura-mater, through this whole extent, was lightly covered with dry lint only; and I had a tin plate, lined with baize, which he wore over the dreſſings, and under his wig. The diſcharge from the dura-mater leſſened every hour. The quantity of lint was leſſened from

day

day to day; in a ſhort time, the preſerved fleſh adhered to the dura-mater; nothing remained to dreſs, but the uncovered part; and he was in a manner quite well, by the end of the month.

The account he gave of his caſe, was the following. About four months before, he was attacked with a pain, exactly over the diſeaſed part, which gradually encreaſed, with a throbbing, ſo as to be often ſcarce tolerable. He declared, to his knowledge, he never received any hurt whatever, on his head. He continued in this melancholy ſituation, ſeldom able to follow his occupation, till a few days before I ſaw him; when an abſceſs forming on the head, gave him the firſt relief. During his cure, he never failed being every morning at the Hoſpital: he took no medicine, and ſeemed to regard it no more, than as if a common ſore.

Here the dura-mater was, to demonſtration, in a ſtate of ſuppuration. It was attended with no ſhiverings, that I could learn, nor any remarkable alteration in the integuments, till about a fortnight before he came to the Hoſpital;

pital; and it muſt be owned, that the efforts of nautre, in this caſe, were aſtoniſhingly great. In Chapter the 18th of this work, the reader will ſee two caſes of concealed fractures, where the pus formed on the dura-mater, made its way through them, and the pieces came away, —He will there ſee, that whilſt this pus was forming, head-ach, fever, and delirium, were its attendants, without ſhiverings; and that when this matter was formed, the ſymptoms gradually ſubſided, and died away entirely with the free exit of it. After theſe examples, will it be ſaid, that matter may be formed on the dura-mater, without a previous fever and inflammation? if he does, he will find three caſes in the Memoirs of the Academy of Surgery, of nearly a ſimilar nature. * In that related by M. Soulier, the pain, fever, and inflammation, preceding the formation of pus, were extreme.

The matter that forms in the brain, or on its meninges, ſome days after a hurt, attended with the ſymptoms deſcribed, is certainly a

* Surgery, vol .1. p. 9.

tranſlation

tranſlation of pus, from ſome other part, not the conſequence of inflammation : and every experienced Surgeon knows, that a white ſwelling in the knee, for inſtance, an empyema, or conſiderable collection of pus in any part, without previous pain, inflammation, or diſcoloration of the ſkin, is generally attended with the moſt alarming ſymptoms, and requires the utmoſt knowledge and abilities, as well with regard to internal remedies, as to external application ; and that the opening of them alone, is ſeldom ſucceſsful.

Theſe facts eſtabliſhed, we ſhall now propoſe *a rational and manly method of cure*—I ſuppoſe a man with a conſiderable wound on the ſcalp, in which the pericranium is laid bare, applies on the accident to a Surgeon. Were it to me, I ſhould treat him exactly thus. If the wound was contuſed, and hollow over or under the pericranium, I would certainly enlarge it; but if with a cutting inſtrument, I would not; as when inflammation ſubſided, the parts would ſpontaneouſly coaleſce. I moſt certainly would have him plentifully bled, and in the jugular vein,

vein, or temporal artery, for choice. But, if the patient was low, or ſunk on the accident, I would poſitively interdict every evacuation, till *the ſtate of the pulſe* ſhould prove it, in ſome meaſure, juſtifiable. This ſhould be ſucceeded by laxatives—powders of nitre and jalap--E. G, three dr. of nitre to one of jalap, divided into twelve papers, of which, one may be taken every three or four hours, would gradually anſwer all the effects we could wiſh, from this operation. If no ſymptom, that indicated evacuations, after this appeared, none ſhould be attempted; the wound ſhould be dreſſed, according to art, and a moderate, not a ſevere regimen as to diet ſhould be directed. As ſoon as appearance of fever and inflammation (if any) diſappeared, I would direct powders of bark, with valerian and caſtor, to be taken three times a day, in orange-peel or camomile-tea. Every one knows the bark to be a powerful bracer, and the valerian and caſtor, are powerful antiſpaſmodics; ſo, that attention being thus paid, both to the ſtate of the blood and the nerves, ſlight depoſits may, by this

means

means be prevented, and more conſiderable ones leſſened.

But, if after all, the ſymptoms of matter forming under the cranium, ſhould appear, or, what may be properly enough called the SECONDARY SYMPTOMS, then muſt another method be purſued. My highly eſteemed friend, Mr. Bromfield, Surgeon to her Majeſty, and to St. George's Hoſpital, has, I think, conſidered this matter in a very proper light. 'In con-'cuſſions of the brain, (ſays he) * do we not, 'from certain ſymptoms, often ſuſpect, either 'obſtructions in the capillaries, or *extravaſa-'tion* of ſome of the circulating fluids; and, 'in order to prevent miſchief, is it not the war-'ranted practice, to bleed and evacuate *uſque 'ad deliquium?* Is not this repeated, if the 'ſymptoms continue, till death convinces us, 'that this method will not ALWAYS ſucceed? 'Should any man recommend a free uſe of 'opium, ſo as to produce a diaphoreſis, in a 'concuſſion of the brain, would he not be thought 'either ignorant or inſane?" But though my

* Tom. 2. p. 44 to 53.

amiable

amiable friend ſeems here to recommend this new practice, in concuſſions of the brain and fractures, yet his words manifeſtly ſhew, that his chiefeſt reliance on it, is in *extravaſations*. Hear again, what he ſays—' That opium is al-
' ſo a great attenuant of the blood, few will de-
' ny; and therefore, that it muſt give the fair-
' eſt chance *for the abſorption of extravaſated*
' *fluids*, and by dividing theſe detained in the
' veſſels, fit them for future circulation."

Opiates mixed with emetics, form a moſt powerful diaphoretic, and exert themſelves in a moſt remarkable manner, in relaxed habits, where the ſecretions are not well carried on, and where depoſits are forming in conſequence. To this purpoſe, I have uſed them, with ſurprizing ſucceſs, in leucophlegmatiæ, and even in confirmed dropſies! Every practitioner knows, that in theſe diſorders, the ſecretions, both by the ſkin and kidneys, are extremely languid, and that urine in particular is diſcharged in very ſmall quantities. Yet, I have ſeen, where a ſingle powerful doſe of *theſe*, properly blended, has produced in one night, a

profuſe diaphoreſis and a greater evacuation by urine, than would in ten days happen without their uſe! *in ſhort, in ſeveral inſtances, they have produced a radical cure!* I have, with like ſucceſs, uſed them, in attacks on the bowels, where every other remedy had failed.

From what has been ſaid, it is eaſy to ſee, that in diſorders of the preſent kind, when we are certain, that matter is forming on the brain, I would warmly recommend medicines of this kind, and particularly DOVER'S POWDER.* Indeed, I am ſo fond of it, that as it is ſeldom known, or preſcribed in ſhops; I have always a quantity of it by me, ready prepared. This medicine, which is called *Dover's Sweating-Powder*, has for its baſis, opium and ipæcacuana, and is a powerful diaphoretic. As ſoon as ever any of the SECONDARY SYMPTOMS appear, I would give a doſe of this, e. g.

* DOVER'S POWDER.—Salt Petre, and tartar of vitriol, of each four ounces,—let them be ſtirred together in a red hot mortar, till they have ceaſed flaming—then powder, and ſlice in, opium an ounce, ipæcacuana and liquorice āā an ounce—rub to fine powder—Doſe, from 40, to 60 and 70 grains, at bed-time.

from

from 10 to 25 grains, and would endeavour to keep up the diaphoreſis, by what Mr. Bromfield calls his tinctura Anodyna, which is——
℞. Vini antimonialis drachmas tres, tincturæ thebaicæ drachmam. M. from ſix to ſixteen, or even twenty drops may be given, in ſome hours after the powder, and repeated in ſix hours—whilſt this is doing—if not already done—I would have the head cloſe ſhaved, and chafed with the following———

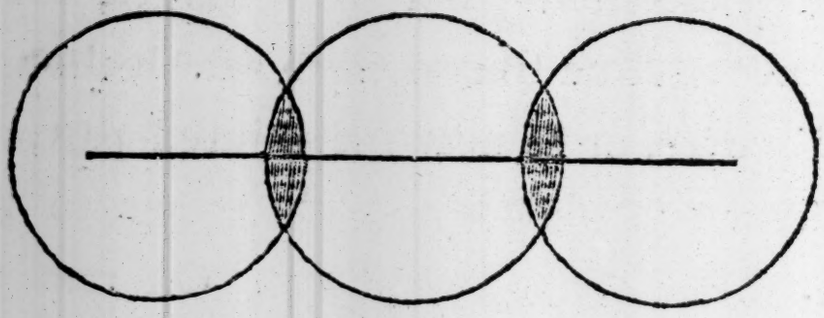
℞. Sp. roriſmarinæ unc. quatuor, ſp. volat. aromat. dr. tres, camphoræ ſcrup. duos M.

After fomenting for ſome time with this, the entire head (the injured parts excepted) ſhould be covered with the templaſtr. calid. ſpread on ſtrong linen, and a large bliſter applied to the pole and neck. The intent of theſe topics, it is clear, are meant to correſpond with the internal proceſs, to abſorb or divert the tendency of matter to the brain—ſhould the fever riſe ſtill higher, with a full, hard pulſe, blood ſhould be taken, but from the temporal artery, or jugular vein only. If in oppoſition to all our endeavours, the ſymptoms ſhould

not *ſenſibly leſſen;* in the courſe of 24 hours *at furtheſt*, the trephine ſhould certainly be applied; as an attack of this kind is too ſerious and ſudden to be trifled with—But, previous to the operation, the friends of the ſick ſhould be fully informed, of the end propoſed by it—that it is not to raiſe a depreſſed bone, becauſe no fracture exiſts, but to give iſſue to matter, formed under the ſkull. That experience has ſhewn, that this matter has been as often diffuſed over different parts of the brain, and ſometimes in its ſubſtance, and in its ventricles as on the dura or pia-mater, of the injured part; and, though, therefore, it is an operation abſolutely neceſſary, to give a chance for life, yet, after all, the matter may be out of reach. This ſecures the operator from cenſure, in caſe it ſhould happen ſo, and ſtill preſerves the credit of the operation.

In trepanning, Surgeons in general are too free of the knife; for the greater the denudated ſurface, the longer will the proceſs of healing be, as well as the danger of the patient. In the preſent caſe, as giving iſſue to mere matter,

matter, is the object, the wound of the integuments, if neceſſary, ſhould be managed with the greateſt œconomy, nor made larger, than to give the trephine free room to act. It ſhould be exactly over, or as near the injured part, as is conſiſtent with ſafety, and the crown to be uſed, ſhould be of the largeſt ſize. On removing the piece of bone, if pus appears in view, or the dura-mater is of a thickened yellow, brown, or darkiſh colour, and a little elevated, we may be aſſured, that it is diſeaſed, or that pus is lodged under it. In either caſe, it is recommended, to open with a launcet; but this I would not attempt, except it were done effectually. In order to do this, I would, without loſs of time, apply a ſecond, either higher or lower, or, according to the direction of the complaint; but, in doing this, I would comprehend a ſmall part of the perforation in the laſt, and, if neceſſary, a third, in this——but the reader will at once comprehend what I mean, by exhibiting on paper, the circle of the trephines.



By this manner of operating, there will be much leſs loſs of ſubſtance by three crowns of the trephine, than by two, in the common way; and the Surgeon will have the opportunity of making a free and proper opening of the dura-mater, which could not be ſo well done by diſtinct openings; and every man of profeſſion knows, that a large aperture, in theſe caſes, is infinitely ſafer, than ſmall punctures, which can only be made by ſuch means. If the dura-mater appears diſcoloured, and that on opening, no matter preſents itſelf, we ſhould not be diſcouraged. The neceſſity of it is apparent; and this very opening may aſſiſt in abſorbing the matter. But if the dura-mater appears

pears in a ſound ſtate, it ſhould not be moleſted, as from it, we muſt conclude the matter beyond the reach of the launcet, and the only remains of hope left, muſt be, from a ſteady purſuit of the internals.

I muſt not however omit mentioning, that caſes ſimilar to theſe have occurred, in which, had apertures been made deep into the brain, matter would have been diſcharged, to the recovery of the patients, in all human probability. Of this, we can be enabled to form a judgments with ſome degree of probability, by continuing the trepan, as in caſes, where the dura-mater is viſibly affected. So that where the ſymptoms of extravaſation are *clear*, and no relief is procured, in ſome hours after a ſingle perforation, I would certainly repeat it, and even pierce into the brain, but as the laſt reſort. *———

But, however beneficial the proceſs here laid down appears, where ſymptoms of extravaſation or pus become manifeſt; yet, in concuſ-

* Vide mem. de l'Academie de Chirurgie, Tom. 2. p. 138—9, &c.

ſions

ſions of the brain, it is a practice, which I would by no means recommend. And, here let me obſerve, that Mr. Deaſe ſeems not to have attended to the operation of diaphoretics of this claſs, when he complains, that though 4 grains of opium was given in a doſe, yet it did not procure his patient any refreſhing ſleep. I have given it in a variety of caſes, many years before Mr. Bromfield favoured me with a copy of his work—Not in ſome inſtances, *Dover's Powder*, but one of the ſame genus, and, indeed, more powerful, namely, opium, mixed with turpeth and ipecacuana, to the quantity of three and four grains of opium for a doſe; and its effect moſtly was, a violent ſickneſs at ſtomach, and puking ſometimes, followed by a profuſe diaphoreſis, and in many inſtances, with ſome purging ſtools. The relief it procured was, by its effects only, and Mr. Bromfield has not once hinted, in the caſes he has given, that it acted as an hypnotic or ſedative.

CHAPTER

CHAPTER VI.

Of the Hydrocephalus, cauſed by external injuries, with its ſymptoms;—Of internal hydrocephali, and their cauſes.—Method of cure, in both inſtances.

THE Philoſopher ſeated in his ſtudy, who, with placid and conſcious dignity, contemplates the extent of his knowledge and acquiſitions; and who, with little labour and trouble, becomes as intimately acquainted with all Nature's operations, and laws in the macrocoſm, as if the Almighty had conſulted him in the formation of our globe, and of the celeſtial bodies; will, no doubt, look down with contemptuous pity, on poor Surgeons, ſo ſhamefully ignorant, even of our microcoſm, as by uncommon ſtudy and obſervation *only*, to creep from one degree of knowledge of it, to another. But let us not envy, but rather admire

theſe

theſe men of ſcience; for ſince they have *demonſtrated*, that *a finite body*, or a body circumſcribed by length, breadth, and ſurface, may be divided *ad infinitum*, we muſt conclude, that they, though limited by length, breadth, and ſurface alſo, are capable of eaſily comprehending illimitable things!

The young phyſician, a complete maſter of the moſt received phyſiology, and of the neweſt mode of practice, founded on this doctrine —Can he, expanded with ſo much ſcience as he is—who is intimately acquainted with the cauſes of reſpiration, of the blood's circulation, &c. and of the mechaniſm, by which theſe effects are produced, and of courſe, of every poſſible diſorder, to which they may be expoſed, as well as its cure.—Can he, I repeat it, condeſcend *afterwards*, pitifully to explore cloſe-ſtools and urinals, watch ſymptoms and effects, keep diaries of caſes, &c. in order to acquire ſome ſmall degree of knowledge of but a minute part of that great whole, which he was early in life, ſo great a maſter of? He cannot; and this is the reaſon, that Surgery has made

made larger ſtrides to perfection, within this century, than Phyſic has *ever done*, or, than in all human appearance it *ever will do*, unleſs—*happily for mankind!*—ſome different mode of ſtudy is chalked out for the young Phyſician. The Philoſopher enjoys his boaſted ſyſtem. It is true, it has no relation whatever, to theſe immutable laws eſtabliſhed by the Almighty; and the works of nature go on invariably and uniformly the ſame, whatever the weak, ridiculous opinion of men may be. The Philoſopher, like the inſane, is happy in his opinions: they injure no one, and I ſhall not attempt to make him unhappy, by undeceiving him! But the medical hypotheſis is truely dangerous, becauſe practice is warped to it; and the miſerable ſick often becomes the ſacrifice—But from this digreſſion.

That amongſt the various complaints, produced by injuries offered to the head, an hydrocephalus ſhould be one, has not, as far as I know of, hitherto been noticed; and yet, it appears to me, to be a diſorder, that occurs oftener

tener than we are aware of——here follows the caſe, that gave riſe to this enquiry,

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CASE XV.

DECEMBER the 6th, 1769, I was requeſted by Dr. Barret, then Mayor of this City, to accompany him, and open the ſkull of a ſtout boy, of about 18, dead about two hours, and whoſe death it was alledged, was the conſequence of a blow of an hammer on the middle of the left parietal bone, received about three months before, from a ſmith, and for which, at the time, informations had been ſworn againſt him. On the inſtant of percuſſion, he was deprived of ſenſe and motion, but in little better than half an hour after, he recovered both. As there was neither wound or fracture, and that the ſtrength and ſpirits of our people, often carry them through moſt violent hurts of the head; the friends of this boy, made, for

ſome

ſome time, little account of the accident. He, however, began viſibly to droop and languiſh. He complained of an heavineſs in the head, with vertigo, ſickneſs of ſtomach, and decay of appetite. The weight of the head encreaſed, his ſight became weaker, but particularly in the right eye. The ſurface of the head enlarged from day to day, but without any ſwelling of the integuments. The heavineſs and weight of the head, compelled him at length, to take to his bed; he became gradually more and more emaciated, and a fortnight before his death, he loſt the entire ſight of the right eye. This was the exact relation given me of his caſe, which I noted down on the ſpot; and the preſent enquiry was, to know, if his death was the conſequence of the ſtroke.

The dimenſions of the head were viſibly enlarged, to a conſiderable ſize, but the fleſhy parts were exempt from any kind of ſwelling; and, to the touch, the bones of the ſkull ſeemed very thin. No external appearance could point out the injured parts; and in ſeparating

the

the ſcalp, by a crucial inciſion, the cranium was free from fracture, or ſign of hurt. It felt, however, through its extent, uncommonly thin, but particularly, both parietals, which yielded to a very light preſſure of the finger. I ſawed round the ſkull; and in raiſing the cranium, the adheſions of the dura-mater to it, were but inconſiderable, except at the ſutures; and even there, not near ſo firm, as in many other caſes. The ſkull was unuſually thin, conſidering ſo ſtout and ſtrong a boy, as by all accounts he was; and in many parts, but particularly on both parietals, *not thicker than royal paper!* the veſſels of the ſurface of the dura-mater were very full and diſtended, ſuch as we often ſee the veins on the belly of hydropics. On opening this membrane, the cauſe of the uncommon diſtenſion of the cerebrum, appeared to be, a large collection of yellow inodorous water, which had inſinuated itſelf into the ventricules, and through the whole ſurface of the cerebrum, which in many places, was ſenſibly melted down, and loſt in it. The above allegations being proved by oath, before the inqueſt, I did not heſitate pronouncing his death

death to be the conſequence of the ſtroke, and the ſmith abſconded, and has not ſince been heard of.

A caſe ſo remarkable, I ſuſpected, could not be a SINGLE ONE; and had it appeared ſo, I ſhould hardly have introduced it, in a general Treatiſe like this. On enquiry, I have reaſon to think, that many ſuch have occurred, but for want of ſufficient accuracy in the relators of them, have been over-looked.——It is recorded by Rohault,* 'that a child of nine years old, 'having fallen (I ſuppoſe, from ſome height) 'on its head, complained of great pain in the 'part. The face and head gradually ſwelled, 'a continual fever followed, with *loſs of ſight*, 'and numbneſs of the extremities, which end-'ed in an apoplexy, of which the child died. 'On removing the ſcalp, a quantity of water 'followed on the inſtant, and about the arte-'ries were many hydatides, ſome like athe-'romæ, others like ſteatoma, and meliceris, 'which was the more ſurprizing, becauſe theſe 'laſt are found, moſtly near the veins. On the

* Traite des Playes de Tete, p. 85—6.

'right

'right ſide of the temple, was a ſmall crack in 'the coronal bone. On ſawing the ſkull, no in-'flammation appeared on the membranes of 'the brain, but ſome water was lodged in its 'ſubſtance, which was decayed. The optic 'nerves were larger than uſual, and ſo weak-'ened, that they broke on the ſlighteſt touch."

This caſe, on the face of it, it muſt be admitted, was an hydrocephalus, ariſing from the injury received by the fall; and though no time is marked from the inſtant of the accident, to its fatal cataſtrophe, yet, we may conclude, that it comprehended in the whole, nearly the ſame time, as the preceding one. There are, however, theſe differences between the two caſes: in the firſt, the integuments were free from ſwelling; whereas, in this, we are told, that on raiſing the ſcalp, a good deal of water burſt forth, and no notice is taken of the ſtate of the bones. For my own part, I ſhould be apt to conclude, that this firſt water did not proceed from the integuments, but from within the ſkull; and that the Surgeon in dividing them, might cut through the bone, which,

which, in the diſſolved ſtate, I muſt ſuppoſe it to be in, might eaſily happen, and ſo give ſudden vent to this quantity of water.

As the caſe is not accurately told, this conjecture ſeems to acquire no degree of certainty, as it is *ever known to be*, not water in the ſcalp, but on the brain itſelf, that cauſes blindneſs, eſpecially the *amauroſis*. We have another caſe, in the ſame work from Bonetus. *

'A woman, who received a blow on the 'ſinciput, complained of *vertigo's* for an entire 'year, which terminated in an apoplexy, of 'which ſhe died. On opening the ſkull, on 'the left ſide of the brain, was found a tumor, 'as big as an hen's egg, filled with a clear 'water, which preſſed in part on the third 'ventricle.'

As theſe two inſtances are related by Rohault, as the effects of injuries done to the head, it is clear, that they cannot be reſolved into any other cauſe; and I think, that if they

* Sepulcretum, T. 3. p. 319.

had been more minutely and clearly narrated, they would, with very little difference, appear as full as the firſt.

In the Memoirs of the Academy of Surgery is related a caſe, which, I think, comes very clear and full to the preſent point. * 'The 'daughter of an ordinary-keeper, at Beſançon, 'was attacked with an head-ach, which, at 'firſt, was but trifling.'——The cauſe of this complaint is not mentioned; but, I think it beyond a doubt, that it muſt proceed from ſome external injury.—'The pain encreaſed 'to ſuch exceſs, in two months, that ſhe was 'obliged to apply to a phyſician, who, during 'the courſe of ſix years, tried the moſt power-'ful remedies, to no purpoſe. M. Vacher was 'conſulted, and arteriotomy performed to lit-'tle effect. After this, we are told, that a cru-'cial inciſion was made on the ſagittal ſuture, 'and the bone raſped over this ſuture, with 'little relief. She was after this trepanned, 'but there was neither collection on, nor in-

* Tome 1. p. 375—6—7.

'flammation

'flammation of the dura-mater. It ſeemed a 'little elevated, and was therefore opened, and 'all this, with no kind of advantage to the 'ſick. She died the eighth day from the ope-'ration. Her head was opened, and three fun-'guſſes, the largeſt of the ſize of a PEA, aroſe 'from the cortical ſubſtance of the brain, 'and were attached to the dura-mater, which 'was very thick here, but the bone on the con-'trary over it, WAS AS THIN AS PAPER. 'The ſuperior ventricles were FULL OF WA-'TER, and the third, filled with black thick 'blood, &c.' There is ſomething exceptiona-ble in the anatomical account of this caſe, eſpecially of the three funguſſes, the largeſt of which, we are told, was as big as a PEA. I venture to make this remark, becauſe it is clear from the relation, that M. Vacher was not preſent at the diſſection, but related it, ſuch as he was told; but the *thinneſs* of the bone, and the extravaſated fluid, were circumſtances too ſtriking to be here omitted, eſpecially, as we are endeavouring to throw new light on a very obſcure, and a very intereſting ſubject.

In the fourth volume of the *London Medical Obſervations*, are ſome remarks, highly worthy attention. Dr. Watſon relates the caſe of a girl, ſix years old, brought to town, for his advice. ‘ Nine weeks before, in running, ſhe fell, with ‘ a SMART ſtroke of her head on the floor. As ‘ the contuſion that followed, ſoon diſappeared, ‘ it was thought no more of, and ſhe was ſent ‘ to a boarding-ſchool. In about a fortnight, ‘ ſhe began to complain much of her head, ‘ which encreaſed for about ſix weeks, when ‘ ſhe was ſent for home. On her coming to ‘ town, the perſon who took care of her, fre- ‘ quently obſerved great paleneſs in her face, ‘ and convulſive motions in her eyes and lids.

‘ An Apothecary had given her at times, ‘ ſuppoſing it a worm caſe, calomel, emetic ‘ tartar, ſaline draughts with nitre, and a bliſ- ‘ ter was applied to the back, which diſ- ‘ charged well; nevertheleſs, her complaints, ‘ particularly the diſorder in her head grew ‘ worſe. When the Doctor ſaw her, ſhe had no ‘ fever, her pulſe were feeble, irregular, and

‘ beat

'beat about 84 ſtrokes a minute. Her eyes look-
'ed very heavy, the pupils were *conſiderably dilat-*
'*ed*, and when not in a ſtate of ſtupidity, ſhe was
'continually crying out, OH, MY HEAD! She
'had frequent fits and puking. Bliſters to va-
'rious parts, and medicines of different kinds
'availed little. The recited ſymptoms encreaſ-
'ed, ſhe became QUITE BLIND, her pulſe
'quickened to a great degree, ſhe was con-
'vulſed, and died on the ſixth day, after his
'firſt ſeeing her.

'As an hydrocephalus was ſuſpected, the
'head was opened, and in the cavities of the
'brain, between 4 and 5 ounces of a perfectly
'clear and ſcentleſs fluid was found, the
'greateſt part of which, was contained in the
'ventricles. No water was found, between
'the ſkull and membranes, between the dura
'and pia-mater, or between this and the brain;
'but there was water in all the cavities, and
'not leſs than half an ounce in the fourth,
'which is worthy attention, as in a ſound
'ſtate, there is ſeldom found more than as
'many tea-ſpoonfuls in the whole 4 cavities.'

That theſe direful ſymptoms, were the effects of the hurt on the head, will I believe now hardly be doubted. The ſymptoms, in every particular, were ſo ſimilar to the caſe I related; coming on gradually, and encreaſing as the diſorder gained; the *loſs of ſight*, &c. and had the ſtate of the bones been alſo narrated, it would, perhaps, appear in every particular the ſame. The Doctor himſelf, ſeems to lay ſome ſtreſs on the hurt of the head, as a probable cauſe.——'I do not take upon me (ſays 'he) to determine, what ſhare the ſtriking her 'head againſt the floor, by the fall above-men-'tioned, had, *in creating this diſeaſe*, and in *occa-'ſioning the great extravaſation of fluids, in the 'ventricles and cavities of the brain*, which could 'not be ABSORBED by any medical proceſs, 'that I am acquainted with.'

He relates two caſes more, with almoſt ſimilar ſymptoms. One was not ſuffered to be opened; but in the right ventricle of the brain of the other, was found, more than 3 ounces of a clear fluid. In both theſe caſes, he remarks, no previous fall or blow was given, which could

could in the leaſt ſeem to contribute to the formation of this diſtemper. For my part, I ſtrongly ſuſpect, that moſt *hydrocephali*, which happen after the firſt or ſecond year, are the conſequences of injuries received on the head, not original diſorders. The careleſſneſs of ſervants often expoſes children to the greateſt calamities, and provided they are ſuch as may be concealed, they are little attentive, as to the conſequences. If a child receives an hurt in the head, which they are moſt ſubject to, on account of frequent falls, the nurſe or ſervant carefully conceal it, whatever light, it may afterwards throw on ſubſequent ſymptoms.

DIAGNOSTIC, PROGNOSTIC, AND CURE.

An *hydrocephalus*, whether from an external injury or inward cauſes when it arrives at any conſiderable height, cannot be miſtaken. The preternatural ſize of the head, the openneſs of the ſkull, at the ſutures, and the eaſy yielding of the bones, particularly the parietals, to preſſure, are univocal ſigns of this diſorder. I think,

think, however, that from the ſymptoms ONLY, we may, with ſome degree of preciſion, determine, whether the diſeaſe ariſes from an external or internal cauſe. I do not wiſh to eſtabliſh any hypotheſis, or that the young ſurgeon ſhould form his opinion of this matter implicitly, from what I have to offer. My only object is truth, and till further obſervations can be collected, either to confirm or reject it, it may be ſafely adopted.

I do ſuſpect, that hydrocephali from internal cauſes, proceed from ſome original defect in the organization of the parts, or from ſome languor or defect in the veſſels of the brain, which early begin to manifeſt themſelves more or leſs, according to the degree of imbecility of the parts. I know that many writers (but particularly Dr. Fothergill †) are poſitive, that this diſorder is moſtly confined to children, from 3 years old, to perſons of 19; but it ſeems more reaſonable to ſuppoſe, that there muſt be a greater tendency to it in infants, where the

† Medical Obſervations, vol. 4. p. 45.

bones

bones of the head, are not well formed, and the ſutures open, than when they become more cloſe and compact. In what inſtances I have ſeen of it, (and two I have diſſected) all were infants, from 6 to 15 months, and in the above two, the water was lodged in the ventricles, and all ſeemed to have died from a natural decay. In the Edinburgh Medical Eſſays, * the caſe of a child of a year old is related, who, from the firſt month, ſhewed ſtrong ſigns of an hydrocephalus. The head became gradually ſo extended, as that when examined, by Mr. Mowat, it meaſured 27 inches and an half in the circumference, and it was ſtill viſibly enlarging. During this time, ſhe had two teeth in the under jaw, and two more appearing in the upper. Her chief ſubſiſtance was the mother's milk. She had no colliquatiſe ſtools, but had ſcarce fleſh to cover the bones, and yet had no other ſymptom, except being heavy, and at times lethargic; and to all appearance, might have lived two or three months longer.

* Vol. 3. p. 264.

CASE

CASE XVI.

A moſt remarkable caſe of this kind, fell in my way—The daughter of a reſpectable young couple, about 10 miles diſtance from this city, was born with a preternatural ſized head, which inſtead of leſſening, daily encreaſed, in ſpite to all the innocent methods tried to prevent it. In September, 1778, I was called upon to viſit this child. She was then 15 months old, all the ſutures of the head remarkably open, and the whole head diſtended to a moſt aſtoniſhing ſize; inſomuch, that its weight made it diſtreſſing to her to be kept up, ſo that it was moſtly ſupported by pillows. She was not near ſo much emaciated as the caſe before it, and both ſucked and fed on pap, &c. with ſome appetite. Her pulſe were ſlow, even and regular, and ſhe had no complaints but an heavineſs, the conſequence of the weight on her head, nor was her ſight much impaired. Finding the ſkull pliable, and that ſhe did not complain,

complain, on gently compreſſing its parts, I took the reſolution on the ſpot, of trying what might be effected, by a writing bandage. Compreſſes wet in ſpirits, were ſpread over the ſutures; and with a double-headed rowler, I commenced at the poll, paſſing the fold of one band through an opening in the other on the forehead, and by the preſſure, reduced the entire circumference an inch and an half. The bandage was ended like the double capulina. I directed, in caſe the child ſeemed very uneaſy, or the leaſt inclined to fits in conſequence of this preſſure, to cut immediately through all the bands, otherwiſe not to diſturb them. I returned in a week, and found them as I left them. I began a new bandage, and cloſed the head an inch and an half more; and directed the compreſſes to be wet in ſpirits twice a day. I ordered the band, if looſe, to be tightened. After this a cap was formed, on the ſame principle, to be conſtantly wore; and the child to be dipped in cold water. I did not ſee her ſince, till October, 1782; her head was then greatly reduced, and the ſutures near cloſed. It is ſtill larger than it ought; but ſhe is in

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ſpirits and health, and *the weight of it*, not very incommoding.

This child, with her grand-mother, are now in town; and I have examined her more than twice. The ſize of her head is not encreaſed; but it appears ſtill enormouſly large. Where the ſutures were ſo remarkably open, and the covering integuments very thin, a perfect cloſure and oſſification ſeems to have been formed. A fall of the head on the ground, which happened ſome time ago, had not the ſmalleſt effect on her: ſhe holds it ſtraight; but if in bed, it chances to ſlip off the pillow, ſhe is not able to raiſe it, though ſhe can otherwiſe turn from ſide to ſide, without aſſiſtance. Her ſight is good; ſhe walks with viſible apprehenſion and difficulty; her appetite tolerable; is never heavy or ſleepy in the day; but there is a viſible weakneſs of the intellectual faculties.

When theſe caſes and their ſymptoms, are oppoſed to caſe the 15th, and the following, the ſenſible reader, I apprehend, will be apt with me to conclude—*'till further obſervations can determine the point with preciſion*—that internal hydrocephali

drocephali proceed from ſome defect in the organization of the parts as yet unknown, or from the ſecretions not being properly conducted, and are chiefly confined to infants; but that hydrocephali which appear, after the ſecond year, are really and truly the conſequences of injuries done to the cranium, or through it, communicated to the meninges of the brain, and as ſuch ſhould be conſidered and treated.

As to the Prognoſtic of this complaint, from what cauſe ſoever proceeding, it is to the laſt degree direful; and we have ſcarce an inſtance in phyſic, of the cure of an hydrocephalus, being effected.

Having however, I hope, eſtabliſhed ſome rational principles to proceed on, I ſhall propoſe from them, a method of cure, which ſeems to bid fair in ſome inſtances, for being attended with more ſucceſs than has attended the hitherto adopted mode of practice.

To aſſert—and it has been an univerſally received opinion—that worms are the efficient cauſe of watery collections in the brain, whilſt

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no one ever dreamed that an aſcites, or leu-cophlegmatia, took their riſe from worms, is one of the many inſtances, how eaſily errors, and moſt abſurd ones too—are propagated from age to age! Had this opinion no greater effect on the human Conſtitution, than the Philoſopher's has on the unerring laws of Nature, there could be no great harm in it. But this is not the caſe, for Practice is warped by Theory, and calomel ſcammony, and other ſtrong anthelminthics, are the courſe recommended and preſcribed! In lieu of which, in internal *hydrocephali*, I would give, from time to time, ſmall doſes of the tinctura anodyna, which is deſcribed in the 4th Chapter—from three, to five or ten drops, to produce a diaphoreſis, and aſſiſt in abſorbing part of this watery depoſit. I would alſo have the head frequently chafed with———

℞. Sp. roriſmarin. unc. ſex, camphoræ drachm duas. ſp. volat. aromat. dr. ſex;

And if this would cauſe pimples or eruptions, I would ſtill perſevere in the ſame courſe, but

I would

I would have the head covered, between the applications, with a cerate of wax and oil.—The ſpine from the neck down, ſhould be often chafed, with ſomething like the following, and the nurſe ſhould be allowed a generous diet, with ſome glaſſes of wine, every day.

℞. Ung. nervin. unc. tres, olei macis p. expreſs. dr. tres olei caryophillorum drachm. ol. terebinth. Q. S.
M. f. liniment.

If theſe anſwered any good purpoſe, I would afterwards dip him in cold river water; and if they even were not accompanied with ſucceſs, I would nevertheleſs conſtantly dip him; for it is but too apparent from the nature of the diſtemper, that whatever can promote the ſecretions in general, and aſſiſt in bracing and ſtrengthening the Conſtitution, muſt ultimately tend to alleviate this complaint.

If, from this courſe, the patient was not ſenſibly better and lighter; and that no tendency appeared towards leſſening the weight or extravaſation on the brain; that is to ſay, that the

the extent of the head did not at all leſſen; but rather encreaſe; that the ſutures ſtill continued open, and the bones, particularly the parietals, were thin and pliable; I, in this caſe, would moſt certainly recommend the following operation, to diſcharge the impacted fluid. As much fleſh, about the center and lateral part of either parietal——the moſt diſtended for choice——ſhould be removed, as would give room for the working of two large crowns of the trephine, one within the bore of the other, as already deſcribed, and above it. When the perforations of the ſkull are effected, and the pieces removed—and the operation ſhould be done with great caution, on account of the thinneſs of the cranium—the dura-mater will, moſt probably, by its riſing, or by the touch, point out the depth of the fluid. Moſt writers agree, that it is generally found in the ventricles of the brain; but there is a great difference, between the brain, in a living ſubject, and when dead; the uniform regular motion of it, in the firſt inſtance, giving a greater degree of activity to the fluid contained, than when in an abſolute ſtate of quieſcence, as in the ſecond.

cond. Beſides, in caſe the 10th, the water was not confined to the ventricles, but diffuſed through the ſubſtance of the brain; and indeed, it is not eaſy to conceive, how they ſhould contain ſo large a quantity of fluid. It is manifeſt, it muſt be diſperſed through the ſurface of the brain, as water is protruded to the ſurface of the belly; and is not the very ſwelling and diſtenſion of the head a proof of this, as that of the belly is, of water being lodged all round it? A launcet ſhould be plunged through the dura and pia-mater, into the ſubſtance of the brain, to the depth of half an inch, and continued from above downwards, near the length of the perforations in the cranium, avoiding, as much as poſſible, the wounding the veſſels of the dura-mater. I prefer a free opening to a puncture, as leſs danger is to be apprehended from it. If water came away, I would let it flow freely, even if mixed with blood, (which probably muſt be the caſe,) and then dreſs the ſurface of the dura-mater (*only*) and fill up the whole cavern with ſoft ſcraped lint, but very well

well aired, to make it the greater abſorbent, and the more comfortable to the parts.

Should no fluid diſcharge from the aperture, ſtill the operation will be attended with ſome advantage; as the inflammation ſubſequent to it may be a greater ſtimulus to nature, and contribute more to abſorb the watery depoſit, than probably, all other remedies beſides.—

That my meaning may not be miſtaken, I muſt again repeat, that by an hydrocephalus, from what cauſe ſoever proceeding, I underſtand, a collection of water, with a preternatural diſtenſion of the head, openneſs of the ſutures, and a ſenſible thinneſs of the bones of the cranium, accompanied at times with heavineſs and ſtupor. This definition, I think the more neceſſary, as in ſome hours after diſſolution, water is generally found in the cerebrum, in a greater or leſs quantity, without, at the ſame time, any real diſorder exiſting there. This is a fact, known to every Anatomiſt; and I fear, for want of attending to it, that in ſome of the caſes, deſcribed by Dr. Fothergill, * he

* London Medical Eſſays, vol. 4.

has

has reſolved this natural appearance of water, into an hydrocephalus; and for this reaſon, that he affirms, that he has ſeen children carried off by it in about 14 days, who were, to all appearance otherwiſe, well and hearty; a thing, I am certain, abſolutely impoſſible from the very Nature of watery collection, lodged in what part ſoever.

If then a child, *before this period, in good health*, complains at times of weight and heavineſs in the head: If it becomes more troubleſome and painful, without the pulſe manifeſting any extraordinary fullneſs and celerity; if this is ſucceeded, by ſickneſs of the ſtomach, puking, and loſs of appetite: If the head viſibly enlarges; the bones of the cranium become thinner and more diſtended, whilſt the ſutures, inſtead of cloſing, are more open, this may be ſafely pronounced an hydrocephalus; and I venture to affirm, an hydrocephalus from an external injury; which any one of but confined knowledge in phyſic, will eaſily diſtinguiſh from the large head, generally attendant on rickets, as the narrow cheſt, weak and diſ-

torted limbs, with the conſtant crazy conſtitution of the latter, cannot ſuffer us to be impoſed on.——

Called in to a caſe like this, I would, on the ſpot, order the head to be chafed with the ſpirituous mixture already deſcribed, being firſt cloſe ſhaved, and the emplaſtrum calidum, to be applied immediately after. Doſes of Dover's Powder, or Anodyne Tincture, ſhould be given according to the age and ſtrength of the patient, and a bliſter applied to the neck and ſhoulders. We ſhould wait a good number of days to ſee the effects of theſe remedies; but ſhould no viſible advantage be gained by them, and that the patient ſhould, inſtead of mending, grow ſenſibly worſe, with an encreaſed tumefaction of the head, I would in ſuch caſes, deſire a conſultation of able Surgeons and Phyſicians, lay open to them my ſuſpicions; and, if it met their hearty concurrence and approbation, I would, without loſs of time, apply one or two crowns of the trepan, and to, or neareſt the part, moſt pained, for choice.

CHAPTER VII.

Of concuſſions of the brain, ariſing from external injuries—the cerebrum, not the ſeat of the animal faculties; nor the cerebellum of the vital. Fatal conſequence of injuries to the medulla oblongata, and ſpinalis. The animal functions reſide in the medulla oblongata, as well as the vital—the line between them, attempted.

IN the diſeaſes hitherto deſcribed, attendant on injuries of the head, we have ſeen reaſon ſtill preſerved, becauſe the brain itſelf was not immediately injured. We now proceed to treat of theſe accidents, in which the organ only becomes hurt and their conſequences.—But, in order to make this whole affair more clear and comprehenſible, it may not be amiſs tranſiently to advert to the received opinions, as to the ſeats of the vital and animal faculties.

The

The vital principles, it has been agreed on, by Willis, and the moſt celebrated Phyſiologiſts, are placed in the cerebellum, and the animal in the cerebrum. Without deſcending to particulars, it has been ſince proved by Haller,* La Peyronie, † and others, that the cerebellum is not the ſeat of the vital faculties, as it has been found diſeaſed in ſome; nay, in a manner quite effaced, in others, and yet the vital faculties have ſubſiſted! Without having recourſe to other authorities, numbers of which exiſt, it will appear, from a moſt remarkable caſe, now to be related, that the animal faculties are not placed, with ſome in the membranes of the brain, nor in the cerebrum itſelf, much leſs in the glandula pinealis with Des Cartes, or the corpus calloſum with La Peyronie!

* Pathological Obſervations and Diſſections, Obſ. 1.

† Mem. de Academie de Chirurgie, T. 2. p. 136—7.

CASE

CASE XVII.

JOHN SHEA, a poor cottager, living about a mile from this city, late in the evening of the 24th of June, 1761, being in liquor, inſulted ſome gentlemen paſſing the road, who probably being not in a much better ſituation, fell upon, and beat him IN A MOST UNEXAMPLED MANNER. In this ſituation, he was carried to his cabin, and next morning, I was requeſted to viſit him. Though the fracture was the moſt extended one I ever ſaw, and that the brain was ouzing out of the wound, yet the man was calm, and in his perfect ſenſes, relating the cauſe of diſpute, and the different perſons, who attacked him. On examining, I found the coronal bone at the right ſide, from a little above the orbit, to its junction with the parietal, entirely broke, as was this laſt bone, through its extent. It was neceſſary to remove ſome of the integuments, in order to extract pieces of bones lodged in the ſubſtance of the brain;

brain ; but I found a neceſſity of doing this with caution, becauſe, for a conſiderable extent, no traces of the dura or pia-mater could be found ! by this operation, I removed three conſiderable pieces of bone, totally detached from the reſt, and ſunk deep in the cerebrum, the ends of which only appeared. As the bones, through the reſt of this extended fracture, did not preſs on the brain, and had beſides ſome degree of coheſion, I judged proper to make no attempts on them, and dreſſed the ſurface of the brain with balſ. peruv. diluted with ſpirits of wine, milk warm, in which pledgits of ſoft lint were moiſtened, ſecured by compreſs, and the grand couvre chef. Though he loſt a conſiderable quantity of blood from the injury, and that his pulſe were moderate and regular, yet, I judged a bleeding neceſſary, and a decoction was thrown up, ſome time after. He paſſed the night tolerably eaſy, complained little of pain, and was quite compoſed and collected. The 26th, ſeveral bits of bone came off with the dreſſings, mixed with the brain itſelf, in *a conſiderable quantity*. As he was perfectly in his ſenſes, Alderman Sexton, who came out with me,

me, the day before, to take his examinations, which he deferred to this day, now took them down. I attended the whole time, and never heard any one ſpeak clearer, or more circumſtantially as to facts, which I found confirmed by ſome of the bye-ſtanders, perſons of repute.

He was again bled this day, and took a ſecond decoction, with proper effect. This night was rather better than the preceding. The 27th, a very diſagreeable fœtor came from the brain, and the ſurface of the ſore was greatly diſcoloured. His pulſe were, however, regular, his ſpirits good, and his intellects quite clear. The night tolerably quiet. The 28th, the ſtench much ſtronger, and a very large diſcharge from the brain, inſomuch that the dreſſings and compreſſes were, in a manner, drowned with brain and pus, mixed with bits of bone. Reaſon, however, continued perfectly clear, and his pulſe, uniform and regular. The compreſſes were now wet in warm ſpirits, and he took every three hours, a tea-cup of a ſtrong decoction of the bark, with ſweet elixir of vitriol, and was allowed ſeaſoned broth, with ſpoon meats. It is very neceſſary to obſerve,

that

that every night from the beginning, he took a paregoric e. g.—

℞. P. rad. Valer. ſilv. gr. duodecim, p. caſtor mp. gr. duo-aq. menthæ cinamom. ten. ad unciam tinct. thebaic. gutt. duodecim, ſyr. aurantior. dr. tres M.

Paſſed the night well, and took at times broth, panada, and wine whey. The 29th, ſtench from the ſore, nevertheleſs, ſcarce ſupportable, and of an unuſual acrimony, and the ſurface of the brain quite black. His reaſon was ſtill clear, his pulſe regular, and not the leaſt tendency to fever; I ſuſpected that he would die that night, convulſed and inſane, but I proved a falſe prophet, for he paſſed it very quiet and compoſed. The 30th, he complained of great weakneſs in the left hand and arm, and the 1ſt of July, they were completely paralytic! The ſore continued to diſcharge greatly, inſomuch, that when I affirm, that not leſs than 3 ounces of the brain, with an horrid ſmell, followed every dreſſing; I am certain, that I am a good deal under the quantity. The 2d, the diſcharge rather encreaſed, and the ſtench highly

highly offenſive, though great attention was ſhewn to the cleanneſs of the compreſſes, &c. but the ſurface of the ſore was not ſo diſcoloured. This day the left leg and thigh became paralytic. The 3d, the diſcharge not ſo abundant, and the ſtench a little abated. Two pieces of looſe bone were extracted, and the ſurface of the wound enlarged. The pulſe ſtill regular, and the intellects clear. The 4th, the diſcharge and ſtench from the wound abated, and the ſore clearer, the large piece of the coronal from the orbit very looſe, and its ſuperior part, preſſing on the brain. The pulſe regular, and reaſon ſound. Alderman Sexton came again to examine him, and found his narrative, in every particular, to agree with the informations he had already ſworn to. The 5th, the diſcharge from the ſore, ſtill leſs, and the ſmell very little. This day, the remaining piece of the coronal of the right ſide came away. The cavern now was terrible, and I feared, that the remains of the lobes of the right ſide of the brain would follow, but the membranes were entire underneath, which prevented this calamity. How

Diary of this caſe ends, with the following remark.—

remark :—Notwithſtanding his ſituation and ſufferings, this poor man was never heard to complain, except for the diſtreſſes his poor wife and children muſt be involved in, by his death. Though pious and reſigned, yet his temper was ſo cheerful, as to joke with his poor viſitors. Curioſity and information, to ſay nothing of other motives, prompted me, to viſit him regularly to his death, which happened the 17th day from the accident, with little pain ; and to the moment of diſſolution, he preſerved his intellects !

From what has been ſaid, *it is certain*, that the cerebrum is no more the ſeat of the ſoul, or animal faculties, than the cerebellum is of the vital. That both are placed in the medulla oblongata, the moſt glaring and ſtubborn facts prove. If the continuation of the medulla oblongata, called medulla ſpinalis, be divided, or even wounded, at the firſt or ſecond vertebra of the neck, death immediately follows, as may be proved on any quadrupede ; and, I am told, that by darting a ſharp pointed knife, between theſe vertebræ, the Jews kill their cattle. A

diſco-

diſlocation of any of the vertebræ of the neck is attended with CERTAIN DEATH, the ſame with the dorſal and vertebræ of the loins, as well as in wounds of them; but this diſſolution is ſooner or later, according to the diſtance from the atlas, or firſt vertebra of the neck as we ſhall ſhew. M. Petit * gives a remarkable inſtance, where CERTAINLY, the odontoid proceſs of the ſecond vertebræ muſt have ſlipped from the atlas; and inſtant death was the conſequence—thus he relates it. A boy, between 6 and 7 years old, was, in a jeſt, raiſed from the ground, by a man's putting one hand under his chin, and the other behind, on his poll. The boy, by a ſudden motion in the air, diſlocated the neck, and was inſtantly dead. His father, enraged at the ſight, threw an hammer at the man, the cutting end of which, wounded the ſpinal marrow, between the firſt and ſecond vertebræ, and he died immediately alſo!

I have met with two different caſes, which will be related in their place, (ſee chapter 19,)

* Maladies des os. T. 1 p. 65—6

where in

where in one, the third vertebra from the atlas, was not abſolutely diſlocated, yet the ſpinal marrow was compreſſed, and in the other, the fourth vertebra was in the ſame predicament. In both caſes, the accidents were followed by death. The firſt lived five, and the other ſeven days.

CASE XVIII.

IN June, 1773, I was ſent for by a Mr. Pennyfeather, then living about three miles from this city, to viſit a man, who, the day before, was wounded by a piſtol-ball, at the 7th dorſal vertebra, counting from above. He, with ſome others, went to take *a poſſeſſion* in the neighbourhood, which was peaceably given up to them. On his return, they told me, that croſſing a ſtile, a piſtol in his pocket acccidentally went off, and wounded him.—But, as I found on enquiry, that he immediately was deprived of the uſe of his extremities ; I concluded the medulla ſpinalis was hurt, which I had

I had no doubt of, upon learning, that his fœces and urine came away involuntary. An apothecary had been to ſee him, before I came, and made ſlight of the hurt; but on examination, I found the direction of the wound, from above downwards, and the ball to be loſt in the paſſage, or what is more probable, lodged in the body of the next vertebra, ſo that the nature of the wound by no means correſponded with the account I had got of the accident. I prognoſticated death to be the conſequence, and told the poor man himſelf, in the gentleſt manner I could, the nature of his caſe, and its certain tendency, which he heard with fortitude and reſignation. About four days after, I was again called to repeat my viſit. In this time, by the involuntary diſcharge of his urine, &c. and I ſuppoſe, being not kept overclean, the ſcrotum, and parts adjacent, became excoriated and raw, and it was from theſe circumſtances, propounded to me, that the man had *ſome latent venereal taint*, and to this, it ſeemed *a wiſh*, that the above ſymptoms might be reſolved. I aſſured the people, that if called upon, on his *Inqueſt*, I would certainly declare,

his

his death the conſequence of the wound, and theſe excoriations, &c. the effects of the injury to the ſpinal marrow. He died two days after, and I never heard more of this affair, which to me, ſeemed very myſterious and dark!

CASE XIX.

A YOUNG Gentleman of rank and conſiderable fortune ſome years ago, was thrown from his horſe in hunting, in the county of Kerry, and a diſlocation of the tenth vertebra of the back was the conſequence. It was ſaid to be a complete diſlocation; I never viſited the gentleman, but from the ſymptoms that attended it, and the length of time, which he lived after it, I think myſelf well juſtified in concluding it to be a partial one. On the ſpot, or very ſoon after, he was deprived of the uſe of his extremities; and after a variety of efforts made in Kerry, he was removed to Cork. His excreta were involuntary, and, in this ſituation, and with a total deprivation of the uſe

of

of the extremities, he lived near ſix months, from the date of the misfortune.

The vital faculties being to demonſtration placed in the medulla oblongata and ſpinalis, where ſhall we, with ſimilar preciſion, place the animal? Not in the corpus calloſum, with La Peyronie, becauſe in caſe 17, part of the fractured bone was lodged even deeper than it; nor in the brain itſelf, becauſe, in this caſe, reaſon muſt neceſſarily be impaired, in proportion to the quantity deſtroyed, which the above recited caſe alſo denies! We have ſeen large quantities, in ſome, of water, in others, of matter, formed in the very ſubſtance of the brain, without reaſon being impaired; and we ſhall, in its place, ſee matter formed on the dura-mater, by the preſſure and irritation of the points of fractured bones, and as ſoon as the fever and delirium, the conſequence of ſuch inflammation, had ſubſided, reaſon become reſtored, though this matter diſcharged in abundance, for very many days after, from the dura-mater!

From what has been ſaid, it is, I think clear, that no other place is left for the PRIMARY SEAT of the SOUL, but the *medulla oblongata* alſo, and here I ſhall place it. If the medulla oblongata be then the primary ſeat of the vital and animal faculties, it will be ſaid, that both muſt be MATERIAL, and conſequently MORTAL! But ſuch concluſions cannot be ſupported. Nothing is clearer than, that the functions of the ſoul, and the vital ones, are in the ſame perſon, as diſtinct as poſſible; the latter being meerly mechanical, and independant of the will. For inſtance, the blood circulates, the ſecretions are carried on, and reſpiration continued, as regularly and uniformly when aſleep, as when awake, *whilſt, at the ſame time*, there is a ſenſible ſuſpenſion of the faculties of the ſoul! In perſons born, and grown up ideots, who may, with preciſion, be called *animalia irrationalia*, in inſanes, &c. the ſame thing is every day ſeen. To prove, how little the operations of the ſoul depend on the vital faculties, we moſtly obſerve, ricketty children, where the bones are bended, the ſpine diſtorted, &c. to have the rational faculties, much

ſtronger

ſtronger than heal thy children. The madman, in the height of inſanity, ſhall ſhew amazing proofs of ſtrength, whilſt the valetudinarian, in the laſt ſtages of a *decay*, and in *the moment of diſſolution*, ſhall from the clearneſs of his reaſon, prove the ſoul to be in a ſtate of full vigour! Can ſuch a ſoul be ſaid to be mortal? at leaſt, to die with the body! Every bodily diſeaſe, that ends in death, and whoſe ſymptoms have been attended to; on anatomical inſpection, will, for the moſt part, exhibit the cauſe, and the effects of this diſeaſe; but can the like be affirmed, where the mind labours under any defect? If an inſane dies of an inflammation, diſorder in the bowels, or in any other viſcus, on opening the body, the ſeat and nature of the diſorder will readily appear; but what information do we derive, by the niceſt inveſtigation of the medulla oblongata and brain, as to the loſs of reaſon, and ſuſpenſion of the animal faculties, which may have ſubſiſted for many years before his death? None! not only the ſoul itſelf, but its attributes, the *ſenſes*, prove they exiſt, from ſome immaterial cauſe. If the diſorder of the eye, called a cataract, ob-

ſtructs viſion, yet the cauſe is known to be an opacity of the chriſtalin lens. The chriſtalin is known not to be eſſentially neceſſary to ſight, but a medium, to refract the rays of light through: the depreſſion, or removal of this body, will neceſſarily reſtore ſight, and if the patient dies, with the complaint on him, the cauſe of it, by inſpection, is ſoon known. But if he be attacked with an amauroſis, or gutta ſerena, and that the dilatation and immobility of the pupilla, ſhew the abſolute paralytic ſtate of the optic, and motores oculi, &c. nerves; in this caſe, after death—I repeat it, from my own knowledge—the moſt expert anatomiſt will not be able, by any defect of the eye, to trace the cauſes of it. The ſame may be ſaid, when the olfactory, auditory, &c. nerves are affected. Their ramifications may be as eaſily and clearly traced, after death, as thoſe of a perſon, who enjoyed all theſe ſenſes in perfection; but the cauſe why they ceaſed to act, muſt remain unknown!

Thus

Thus we ſee to demonſtration, that the vital and animal faculties are as diſtinct as poſſible; and, though I have placed the ſeat of both in the medulla oblongata, yet, even here, I believe they occupy different and diſtinct places. For though every part of the medulla oblongata is undoubtedly mortal, yet, I ſtrongly ſuſpect, that the ANIMAL functions are chiefly confined to that part of it, from which the firſt ſeven pair of nerves of the medulla oblongata originate, and no other. Say then, ye Sons of *Materialiſm*, of immorality and blaſphemy, for what purpoſes did the Almighty endow you with IMMORTAL SOULS? was it to war againſt Heaven, reaſon, and conviction?

CHAPTER

CHAPTER VIII.

Of Concuſſions of the Brain, and Medullà Oblongata—Claſs the Firſt.—Fiſſures of the Cranium, reducible to this Claſs.

HAVING, I hope, eſtabliſhed the ſeats, and pointed out the functions of the animal and vital faculties, on clearer principles, than heretofore done, I ſhall now treat of theſe external injuries of the head, by which the animal faculties are chiefly affected.

Beſides extravaſated blood on the cranium, matter lodged on, or under the dura-mater, and hydrocephali, we experience other moſt dangerous diſorders to ariſe from injuries of the head, without the bones being at the ſame time in the leaſt injured. When, from a violent blow or fall, the force of which is reſiſted by the cranium, and, in which, neither the membranes of the brain, nor this organ itſelf are affected, we may be aſſured, that its ulti-

mate

mate force is ſpent on the medulla oblongata. The ſymptoms of affects of this kind, are a deprivation of the animal faculties, with a ſtrong, regular, and ſlow pulſe; ſo that when called in, after a violent hurt to the head, whether by a ſtroke, fall, &c. if we find the ſick, in a ſtate of liſtleſs inſenſibility, without ſpeech, or at leaſt incapable of making proper anſwers to queſtions; with a ſlow regular pulſe, and his hand often on the injured part, we may reſt aſſured, that his complaint is, what is generally called a commotion, or concuſſion of the brain, and that the cranium itſelf is in a ſound ſtate. The ſymptoms of this complaint, will make it be eaſily diſtinguiſhed, from theſe, ariſing from other injuries of the head. For though loſs of ſenſe and motion, may ſucceed other hurts of the head, yet they are but temporary, ſeldom exceeding an half hour, or an hour, and are rather the conſequences of the ſudden injury the whole animal œconomy has ſuſtained, than any particular ſymptom of the hurt. But in commotions of the medulla oblongata and of the brain, the ſtate of inſenſibility, with a ſtrong, regular pulſe, are its particular ſymptoms,

toms, and continue a longer or ſhorter time, in proportion to the violence of the injury.

This diſorder I ſhall diſtinguiſh into three different ſtages, ſuch as, by experience, I have found it; each illuſtrated by obſervations. In the firſt, the concuſſion of the medulla oblongata, and nervous ſyſtem of the brain is ſo great, as to terminate in death. In the ſecond, the vital functions may continue, the perſon recover, but the animal faculties will remain impaired; and in the third, both health and reaſon will be reſtored.

CASE XX.

Mr. Kerin, a gentleman from Dublin, returning from Caſtle-Connell to a gentleman's houſe, in the neighbourhood, where he was on a viſit, in October 1760, was thrown from his horſe, on his head, croſſing a field, and taken up immediately by his ſervant, but ſpeechleſs and ſenſeleſs. Dr. O'Brien and Mr. Mahony, of this City, were immediately ſent

for, as were Dr. Shearer and I, two days after. He had, in the interim, been bled profuſely, been bliſtered, and every other medical attempt eſſayed, to rouze him from that lethargic and inſenſible ſtate he had been in, from the inſtant of the fall; to no viſible advantage. His pulſe were regular, and remarkably ſlow, his hand conſtantly on his forehead, and no trace of injury could be found on his head, but a red ſpot, about the ſize of a ſhilling, on the middle of the right parietal bone, on which part he fell. There alſo conſtantly ouzed out of the right ear, and immediately after the accident, a clear limpid water, which might amount to, *at leaſt*, the quantity of 12 ounces in the 24 hours, and which ceaſed not, till his death. Though ſatisfied, that no fracture exiſted, yet, by way of trial, and to ſee if there might not be ſome fiſſure, we concluded to ſcalp on the injured part, which I immediately performed, and removed the pericranium, but not the ſmalleſt trace of hurt to the bone appeared. In a word, he died the fifth day, from the accident. I was very curious to open the head, in order to trace any poſſible cauſe for

his

his death, and for the diſcharge of water from the ear, which I never met with, either before or ſince, but the family would by no means conſent to it.

CASE XXI.

A Young gentleman, of a moſt amiable diſpoſition, in June, 1770, riding home late at night, was pitched on his head, in an hard rocky, though ſmooth part of the ſide of the road,, and ſoon after taken up and brought to his own houſe, in a lethargic and ſenſeleſs ſtate. An expreſs came off immediately for me, but engaged in town, I could not quit till next morning, ſo ſent out Mr. Mahony. Next day I viſited him, with Dr. Barret and Dr. Martin. In the mean time, he had been bled, both in the arm and the foot, and I propoſed a large bliſter between his ſhoulders, and to give him at times, a tea-cup full of a ſtrong infuſion of fine green tea, in order to rouze him from that ſtate of inſenſibility in which he continued—

Now

Now every one knows, that inebriety, which is a kind of temporary inflammation of the brain, is moſt ſenſibly relieved by ſtrong tea or coffee; and is it not ſurprizing, that ſuch obvious effects are not applied to practica. caſes?—Both propoſals were however overruled, and I returned to town that evening. In this caſe, no ſign whatever of fracture appeared, but the right ſide of the head and face were here and there ſcraped, as if by ſand or pounded ſtone. In two days after, finding him no way mended, nor in the leaſt rouzed from his lethargic ſtate, he was firſt ſcalped, and the day after trepanned, but he died a few hours after the operation. In this caſe alſo, the pulſe were ſlow and regular, and he held conſtantly his hand on his forehead.

CASE XXII.

Mr. T. G. reſiding about 15 miles from this City, in July 1779, received a blow of a ſpade-tree on the poſterior and ſuperior part of

of the left parietal—this happened late at night, and next morning he was removed to his own houſe. He had a longitudinal wound of about an inch, which was dreſſed by an apothecary from Rathkeal, and though he remained in a lethargic ſtate, yet ſome of the effects of it were attributed to liquor. But on continuing ſo, all that, and the following day, the family became alarmed, and I was ſent for the third day. His pulſe and the ſymptoms ſatisfied me, before I examined the ſore, that the cranium was not the injured part; for the pulſe were ſlow and regular, and he remained in a ſtate of liſtleſs ſtupidity, with his hand to his head, yet would ſometimes anſwer a ſingle queſtion, and ſearch for the veſſel, when he wanted to make water. He had been twice bled; and I did not wiſh to extend this evacuation, becauſe I am ſatisfied, it anſwers no good purpoſe in complaints of this kind. On examining the wound, I could not find even the pericranium bare, yet, as it was a caſe, where a trial for life muſt be the certain conſequence, leſt it might be inſinuated, that every thing that ſhould be done, was not done, I enlarged the wound, and

laid

laid bare the cranium, to prove that no pretences for an application of the trephine exiſted. I directed an opening decoction that evening, and to be repeated the next, and ordered

℞. Mixturæ ſalinæ, aq. cinamom. ten. ad. M. tres. pulv. rad. valerian. ſilv. ſcrup. duos p. caſtor. rup. gr. duodecim, tinct. fœtidæ, dr. duas, tinct. thebaicæ, ſemidrachm ſyr. de althea dr. ſex.

two table-ſpoonfuls to be taken every 3 hours, and a bliſter was at the ſame time applied to the neck, and directions to give at times, a cup of ſtrong tea. I gave a candid opinion, that I feared the caſe was mortal, and I declined remaining there, as I ſaw, that there was nothing particular more to be done for the preſent; ſo left directions with the Apothecary, with a deſire to be informed from day to day, of any alteration. The evening of the next day, I was requeſted to viſit him, the following morning, with his family phyſician. I did ſo; but his growing ſo much worſe in the interim, proved his diſſolution very near; I told them, he would not paſs the night; and it was a point

agreed,

agreed on, that, in that caſe, an expreſs would follow, and I promiſed to return next morning to open the head.—

About 12 o'clock next day, I performed this operation, in the uſual manner. The cranium in firmneſs and thickneſs exceeded the common ſize, and the dura-mater, under the injured part, adhered as cloſe to the bone, as in any other part; nor did the bone carefully examined at both ſides, exhibit the ſmalleſt veſtige of hurt whatever. The veſſels of the dura-mater, &c. were in a middling ſtate, exhibiting neither ſtate of inflammation, or relaxation. No rupture of blood-veſſels on the brain, no extravaſation whatever. In ſhort, nothing appeared more in this diſſection——and I was minute in my examination—than would on diſſecting any indifferent head, in the Amphi-Theatre!

CASE XXIII.

THE Butler of Colonel Prittie, an athletic man, about 40, riding through the town of Nenagh, in July 1759, was thrown from his horſe, from which fall, he received a pretty conſiderable wound, on the middle of the left parietal bone. He was immediately taken up, but quite lethargic and ſenſeleſs. The wound bled freely, and for a conſiderable time could not be ſtaunched, notwithſtanding the different methods tryed for this end. Early next morning, an expreſs reached me, and I viſited him the afternoon of that day. I found him, in exactly the ſtate deſcribed, with a ſtrong, regular, and ſlow pulſe; and though I was convinced, that the real injury, was a commotion of the cerebrum, and medulla oblongata, which the trephine could neither reach nor remedy, and that the diſorder would ſoon terminate in death; yet, from the importunity of the people, and leſt any thing might be ſuppoſed omitted, which might afford a chance for

for life, I, after preparing dreſſings, enlarged the wound, removed the pericranium, and applied a large crown of the trephine, on the injured part. The bone was perfectly ſound, and nothing appeared on the dura-mater, but two or three drops of blood, the effects of the adheſion, between it and the cranium, at this place. He was not in the leaſt mended, but viſibly worſe, after the operation, and died about five next morning.

CASE XXIV.

IN May 1760, I was ſent for, to viſit a butcher in Rathkeal, about 14 miles from this City, who, two days before, received a violent blow on the right temple, which brought him to the ground, though a very ſtrong man, and he directly fell into violent convulſions. Theſe were ſucceeded by delirium and ſtupor, interrupted at times, by violent fits of inſanity.

When

When I firſt ſaw him, he was ſecured by aſſiſtants, had an uncommon hardneſs and fullneſs in his pulſe, his eyes inflamed, and his face very red. He had been twice bled. Upon examining the parts with the utmoſt attention, I ſaw no cauſe to ſuſpect a fracture. The ſtupor, I was ſatisfied, proceeded from a commotion of the cerebrum and medulla oblongata, but the uncommon hardneſs, and fullneſs of the pulſe, with fits of inſanity, &c. made me ſuſpect, that it was accompanied by a violent inflammation of the brain, and probably, the rupture of ſome conſiderable blood-veſſel. At any rate, the ſtate of the pulſe, and the ſymptoms, demanded profuſe evacuations, and theſe I determined he ſhould have; but to make them more effectual, I reſolved, that they ſhould be as near as poſſible, to the ſeat of the complaint. I cauſed his head to be ſhaved all over, and then opened the temporal artery of the affected ſide, from which the blood poured out with rapidity. When he loſt about fourteen ounces, I found the veſſels pretty well emptied, and bound up the parts with the uſual

bandage. The head was chaffed with a mixture e. g.

℞. Sp. roriſmarinæ unc. ſex, camphoræ drachm. ſp. volatil. aromat. dr. ſex. M. ſ. embrocatio; and compreſſes wet in this, covered the head.

He took alſo every two hours, powders of nitre and valerian, with the ſaline mixture, and in the evening, a decoction, which procured ſome plentiful evacuations. He paſſed the night more compoſed, than any of the preceding ones, ſince the hurt; and next morning, I opened the artery at the oppoſite ſide, from which I got about 10 ounces of blood. His pulſe became moderate, and he more calm and compoſed, but ſtill lethargic. I directed a large bliſter for his back, and phyſic for the next morning; and he recovered ſo faſt, as, in about three weeks after, to be able to follow his buſineſs. In paſſing through Rathkeal two or three times after, I called to ſee this man, and he continued in perfect health; but I was afterwards informed, that between three and

four

four months, from the time of the hurt, being one day put into a violent paſſion, he inſtantly dropped dead.

CASE XXV.

THOUGH the caſe now to be recited, may be thought properly, to come under that part of this Treatiſe, which relates to injuries done to the cranium itſelf, yet as the ſymptoms and effects of it, aroſe from the commotion of the cerebrum and medulla oblongata ONLY, I thought it with more propriety might be introduced here.—About one o'clock in the morning of the 12th of February, 1774, a gentleman, whom I had never ſeen before, had me knocked up. He told me that a poor man was lying in the paſſage of a Tavern, he believed, with his ſkull broke, and an act of humanity had induced him, to take the liberty of calling on me to ſee him. I told him, that as by his relation, the man was both helpleſs and friend-

leſs, I would immediately call to ſee him; but begged, that he would by no means, place the viſit to his own account, whom I had not the pleaſure of knowing, but to the dictates of my own feelings. I found the poor man pale and cold, with ſcarce the ſmalleſt motion of the pulſe, and to appearance dead. A fellow, who ſat by him, told me, that he had drank an amazing quantity of ſpirits, and in conſequence fell and cut his head, on a ſtep of the ſtairs. Hereupon he ſhewed me a very ſlight hurt on the ſuperior, and middle part of the left parietal. I cut the hair cloſe round the part, and ſcarce any ſign appeared, but that of the ſkin's being broke, about the ſize of a ſilver threepence, but the cranium underneath quite firm. On a ſuppoſition, of a ſuper-abundance of ſpirituous liquors, being the cauſe of theſe ſymptoms, I had ſome draughts of warm water forced into the ſtomach, and with a feather, endeavoured to make him evacuate ſome of this deleterious ſtuff; but though I did not ſucceed in this laſt object, yet the efforts gave a ſmall ſtimulus to Nature; his colour returned a little, and his pulſe became ſenſible. A few

moments, however, convinced me, that his caſe was beyond the aſſiſtance of Art; ſo I deſired he might be put into bed, and if alive next morning, I would ſee what more could be done for him; he, however, expired in about two hours after. About 10 o'clock in the day, Mr. Johns, then Mayor, called upon me, and requeſted I would be ſo kind as to attend an Inqueſt; for ſome circumſtances had fallen out, and ſome informations had been received, that his death was the conſequence of an aſſault. Upon a cloſe and clear inveſtigation of the matter, it was proved, beyond a poſſibility of doubt, that this very Gentleman, or rather abandoned profligate, who had applied for my aſſiſtance, had met this man, who was a journeyman-ſhoemaker, and the only ſupport of a poor old father and mother, and without much provocation or ceremony, ſtruck him on the head, with a ball of lead, covered with leather, which was made as a kind of head to a ratan cane. But the appearance of the head raiſed a doubt in me, as to the fact ſworn to; for ſo little was the ſign of the injury, that, if I had not myſelf cut the hair round

the part, I ſhould be totally at a loſs, to find the ſeat of it. I raiſed the ſcalp, for about two inches round it, and removed the pericranium; and there, to my great ſurprize, I found a fiſſure in the bone, of about an inch long! As I do not think, that this word is a ſufficient explanation of my meaning, I muſt, in its aid, adopt the word CRACK; for it exhibited the ſame appearance, that a ſmall crack in a pane of glaſs does, in which the glaſs itſelf, has been ſcarce injured. To be more fully ſatisfied, I took the reſolution of raiſing the reſt of the ſcalp, and ſawing round the cranium, ſo as to expoſe the parts underneath to view. I did ſo; and found this crack had pervaded the bone, ſo as to be as viſible within as without. The dura-mater was every where attached, as uſual, to the cranium, except under this crack, where two or three drops of blood noted the ſeparation. Both dura and pia-mater, were otherwiſe in a ſound ſtate. I examined the medullary and cortical ſubſtance of the brain, the ventricles, the medulla oblongata, the cerebellum, &c. with the utmoſt minuteneſs and attention; and was not able to diſcover any ſenſible alteration,

any

any derangement of the parts, any extravaſation, in ſhort, any effect whatever, barring the crack in the cranium, which could ſatisfactorily explain the immediate cauſe of his death! the delinquent, ſenſible of his criminality, immediately diſappeared; and I have been ſince told, met at New-York, the fate he juſtly merited at Limerick!

CHAPTER

CHAPTER IX.

A Second Species of Concuſſion; or, of a Partial Recovery.

HAVING ſelected a few, out of a much larger collection of melancholy caſes, where death was the conſequence of violence communicated to the *animal faculties chiefly*; to demonſtrate the juſtice and utility of the diſtinction, I ſhall preſent to the reader, two caſes only, and the only ones I ever met with, where, though the patients recovered, the *animal faculties* were nevertheleſs never reſtored.

CASE

CASE XXVI.

ONE Chamberlain, a reſident of this City, in Nov. 1759, was thrown from his horſe, on the ſide of his head, and the conſequence was a ſtupor, inſenſibility, and every other ſymptom attendant on a commotion of the cerebrum. He had been bled on the accident, and the next day was viſited by the late Mr. Gould, and by me. No wound or hurt appeared on the head, but a red ſpot, about the ſize of a ſhilling, on the middle of the left parietal, which we ſuppoſed the injured part; for he was incapable of affording us any information whatever. The jugular vein of the affected ſide, was this day opened, and a laxative decoction thrown up, to a good purpoſe. Next day, a bliſter was applied between the ſhoulders; and finding him continue two or three days after, in the ſame ſtate of inſenſibility, it was more than twice debated, to apply a large crown of the trephine over the injured part. But as

he

he did not grow worſe, and that the cranium appeared perfectly ſound, it was poſtponed, apprehenſive, that if he died, it might be ſuppoſed the effect of the operation. He, by degrees, recovered his health, and is at this day alive and well, but never was reſtored to his ſenſes. He is perfectly inoffenſive; always appears abroad decent; never ſpeaks to any one; and his only amuſement is gathering bits of ſticks, or wood, by the water-ſide.

CASE XXVII.

JAMES GARDENER, a joiner, of this City, in May 1759, riding at a little diſtance from Allaky, a village, nine miles from hence, was thrown from his horſe, croſſing a field, and pitched on his head. He was ſoon after taken up, and conveyed to a neighbouring farm-houſe, but continued the remainder of that day, and during the night, in a lethargic ſtate. Word being brought to his brother next morning,

morning, he requeſted I would accompany him to ſee this man. Upon getting his head cloſe ſhaved, and then carefully examining it, I could perceive no ſign of hurt, except a red ſpot, about the bigneſs of a ſhilling, near the middle of the right parietal, but the niceſt touch could diſcover nothing like a fracture. His pulſe were regular, ſlow, but full and hard: his breathing was labored, he could not ſpeak, and he had his hand conſtantly on his forehead. He had been twice bled before I ſaw him; but as the pulſe continued full and hard, I opened a branch of the temporal artery, at the affected ſide, from which blood ſpouted out freely, to about 10 ounces. His head was frequently chaffed with camphorated ſpirits of roſemary, and ſp. volat. aromat. He took a decoction, and was directed powders of nitre, valerian and caſtor, with the ſaline julap every two hours, and that night, a large bliſter was applied between the ſhoulders. I left him next day, and ordered the medicines to be continued, and a decoction thrown up every evening. In about four days from my viſit, I was informed by his brother, that he was a good

deal

deal lighter, knew people, and could with ſome difficulty anſwer a queſtion or two. In about 5 weeks from the hurt, he was brought to town, and tho' his pulſe were regular and compoſed, yet his intellects ſeemed quite impaired! I cut a ſeton in his neck, in hopes the drain might afford ſome relief; and he took of the lac ammoniac, with caſtor and black hellebor, but to no ſenſible advantage. Twelve months after, I ſaw him at Allaky, his health eſtabliſhed, but otherwiſe quite inſane. What became of him after, I have not been informed; but I take it for granted, that he has remained in the ſame melancholy ſtate.

CHAPTER

CHAPTER X.

Third Species of Concuſſion, or of complete Recovery.

TO point out with preciſion, the injuries of the ſkull, which demand the operation of the trepan, being a great object of the preſent work, a little reflection will ſoon ſhew, that concuſſions of the brain muſt be totally exempt from it; becauſe it is evident, that the ſeat of the complaint is far beyond the reach of any inſtrument; and if there be inſtances of people's recovering after ſuch an operation, it is unjuſt to attribute the cure to that operation. For there are not wanting inſtances, where, ſpringing from a conſiderable height, on hard ground, though on the feet, yet the ſhock has been communicated to the head, and produced all the ſymptoms of a concuſſion of the brain; and would any one think of trepanning in this caſe? To prevent then an operation,

ration, uſeful to the Surgeon only; to deprive him of a credit, unſupported by experience; and to preſerve the ſick from an operation, which, at beſt, muſt expoſe him to much unneceſſary pain and danger, I ſhall preſent to public view, a few ſtriking caſes in point.

CASE XXVIII.

IN June, 1757, C. S. Eſq. returning to his houſe, at a late hour, and unattended, fell from his horſe. He, in ſome little time, became ſo well recovered, as to be able to reach home, and was put to bed. At firſt it was imagined, that he was very much in liquor; but by frequently putting his hand to a particular part of his head, and perceiving there, a red ſpot, about the ſize of a ſhilling, a ſuſpicion aroſe, that he had been ſtruck, or fell, which was confirmed, by obſerving his hat dirty, and his wig broke, in the particular part, correſponding

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ing with the hurt. A Phyſician at New-Caſtle, and near at hand, was ſent for, and he immediately bled; but finding in about 12 hours after, an inſenſibility, and comatous diſpoſition, which manifeſted itſelf from the beginning, ſtill continue, and that beſides he had puked 3 or 4 times, a fracture was apprehended, and I immediately ſent for. The head had been cloſe ſhaved, before I reached the houſe, (about 17 miles from town;) and on examination, I found a red tumor, very little elevated, at the ſuperior and poſterior part of the parietal bone of the right ſide, near its junction with the occipital. But on the niceſt and moſt exact touch, no ſign of fracture or depreſſion appeared; nor did he ſeem any more affected with a preſſure here, than on any other part of the cranium. It was impoſſible to gain any information, as to the cauſe of the accident, as he was incapable of giving any; but reflecting, that if the ſkull had been fractured, or even materially injured, without a fracture, other ſymptoms would appear; and reſolving all that did, to the force of the injury being communicated to the brain, I *pronounced deciſively*,

ſively, that there was no fracture, and that his diſorder proceeded from a commotion of the brain, communicated to it, by the reſiſtance of the ſkull, of courſe, that trepanning would expoſe him to freſh danger, inſtead of affording relief.

His pulſe were quite regular; full, and rather ſlower than in a natural ſtate; (a ſymptom, frequently accompanying this complaint.) I had him, however, bled in the foot, and his head frequently chafed with the following.

℞. Sp. roriſmarin. unc. tres.
Gum. camphoræ drachmam.
Sp. volat. aromat. ſemi unc.
M. ſ. embrocatio.

He took alſo, every 3 hours, powders of nitre, valerian and caſtor, in the ſaline julap, and had a decoction thrown up. He ſtill continued in the ſame liſtleſs comatous manner, frequently putting his hand to the part affected. The next morning, by way of further derivation, I had bliſters applied to his legs, as the preceding night, ſinapiſms had been to the feet; and Dr.

Anketill,

Anketill, the family phyſician, was ſent for. The morning following I was diſcharged ; and he continued for 12 days after, in the ſame melancholy ſtate. Being a young man, I was much cenſured, for not trepanning him ; and had I continued there a couple of days longer, I am certain I ſhould have done it, more to avoid blame, than from any opinion I had of its good effects. Another Surgeon had been propoſed, but the Doctor, ſatisfied of my abilities and integrity, would not hear it. Time did me juſtice ; he inſenſibly recovered, and continued in perfect health, for very many years after, but was at length taken off by a fever, to the great regret of his friends and acquaintances.

REFLECTION.

THIS Caſe, circumſtanced as I have deſcribed it, was a lucky event, to the party concerned ; and ſhould be uſeful to the profeſſion of Surgery. Had I remained in the attendance of this gentleman longer, I ſhould certainly have trepanned him, for the reaſons given. Had he died after the operation, probably it

would have been ſaid, that it ought to have been performed ſooner. If he recovered from it, no doubt, to it, would all the merit be aſſigned; and in future, to the danger attending the firſt injury, would be added another—namely, the removal of a conſiderable part of the ſcalp, with the bone underneath; and the dura-mater expoſed, probably in more places than one! By his perfect recovery without it, as in very many ſucceeding caſes, we ſee to A CERTAINTY, that in all commotions of the brain, or medulla oblongata, which manifeſt no ſymptoms of a different nature, trepanning ſhould never be attempted.

CASE XXIX.

—— COLLOPY, aged about 19, and an apprentice to a jeweller of this City, in June 1770, returning from the races of Rathkeal, was thrown from his horſe, within a mile of town,

town, and pitched on his head. He was immediately taken up, quite ſenſeleſs, brought home, and bled on the ſpot in the arm, and next morning in the foot. That afternoon I ſaw him, for the firſt time. He had received a ſlight contuſion, on the ſide of the left parietal; and with it, all the ſymptoms of a commotion of the brain, or medulla oblongata, and none other. Being young and full of blood, I judged further evacuations neceſſary, and accordingly opened the temporal artery of the affected ſide, and the body was kept moderately open. He took alſo powders of nitre, caſtor and valerian, in a ſtrong decoction of green tea. For, from the effects of this laſt, on people, who have drank too freely, I hoped, in the preſent caſe, it might relieve the comatous and inſenſible diſpoſition, under which he ſeemed to labour. A large bliſter was alſo applied between the ſhoulders, which diſcharged greatly. In about four days, he grew ſenſibly better; and in a week after, went to the country, & ſoon recovered his former health and ſpirits, which he has enjoyed to this day.

CASE XXX.

MARCH the 17th, 1772, I viſited Mr. Magrath, a wealthy farmer, near Charleville, in the county of Cork. Riding home late at night, on the 14th, and much in liquor, he was thrown from his horſe, and pitched on the crown of his head, on a ſtone pavement. On his fall, he alſo received a contuſed wound, on the poſterior part of the parietal bone. He was taken up ſome time after, and brought to that town; where, in the courſe of two days, he was four times profuſely bled, and ſuffered other evacuations, without the ſmalleſt apparent relief. Continuing ſtill in the ſame ſtupid inſenſibility, in which he was found, immediately after the hurt, I was ſent for; and from a recital of the accident and ſymptoms, was quite ſatisfied, that the ſeat of the complaint, was not in the cranium, even before I ſaw him. The examination juſtified my prognoſtic. There was neither fracture or depreſſion, nor any viſible external injury from the fall, ex-

cept a diſcoloration; but on inſpecting the wound, which he received from a kick of the horſe, after the fall, which was a large tranſverſe one, I found the bone bare underneath, above an inch. The ſtupid inſenſibility, in which he lay, and the ſlow pulſe, with every now and then, raiſing his hand to the crown of his head, were to me, UNIVOCAL SIGNS, that his complaints proceeded from the concuſſion of the brain only, and that though the wound poſteriorly was conſiderable, yet, that for the preſent, it demanded only plain, ſimple dreſſing. My principal attention was drawn to the ſymptoms of the commotion. The pulſe were not only ſlow, but low, ſo I rejected the idea of arteriotomy, or other evacuations of blood. The medicines I directed, were chiefly of the nervous tribe; caſtor, valerian, &c. in a decoction of the bark; and, as it muſt, on the face of it, appear abſurd, to order ſuch remedies, without a correſpondent diet, I directed veal-broth, beef-tea, and ſometimes a little wine whey. The 18th his pulſe were fuller and ſtronger; and as he had no ſtool for three days, I directed a decoction, conſiſting of an

ounce and an half of Glauber's ſalts, diſſolved in an half pint of wey, to which a table-ſpoonful of oil was added, to be injected, which produced a good effect. Still, however, the ſtupor and inſenſibility remained, and his moaning as conſtant as ever. The 19th, no way better, ſave that the pulſe grew firmer; and, in the afternoon, his reſtleſſneſs and anxiety encreaſed, but he ſtill remained inſenſible! I directed a large bliſter to the pole, and between the ſhoulders. About one in the morning of the 20th, he grew ſo reſtleſs and outrageous, as ſcarce to be retained in bed. In this ſituation, I was called up; and finding it neceſſary to do ſomething to calm this orgaſm; on reflection, nothing appeared to me more rational, than ſedatives. I directly went to the Apothecary's; and to four ounces of ſaline mixture, I added two drams of tincture of caſtor, and 30 drops of laudanum. Half of this I gave him directly, and waited the event. He inſenſibly grew calmer, and more compoſed, and in about an half hour, fell into a ſound ſleep. I then retired; but left directions, that in caſe he again awoke reſtleſs and uneaſy, to

give

give him the remainder of the bottle, at what time ſoever it happened. At four in the morning, though more compoſed, it was given to him; and he ſlept quietly till 10 o'clock. He then awoke, much refreſhed, and viſibly clearing in his intellects, and his pulſe much better. The bliſter produced a large diſcharge; and that night, though ſtill mending, I ordered a repetition of the ſedative, half of which I gave him myſelf, about 10 at night, but directed, by no means to give him the remainder, without firſt calling on me. He paſſed the night in good repoſe, and great tranquillity; and next morning, was ſurpriſingly recovered, and ſo ſenſible and compoſed, that I judged my further ſtay unneceſſary. The wound healed in ſome time, and he returned in a few days to his uſual occupation, and, I believe, is ſtill alive, and in good health.

CHAPTER

CHAPTER XI.

Method of Cure in Concuſſions.—Evacuations to be cautiouſly uſed.—Opiates mixed with the nervous tribe, the moſt rational and ſucceſsful method.—Reaſons and facts offered in ſupport of this Practice.

EVERY violent injury to the head, to which the bones of the cranium do not yield, muſt neceſſarily, and according to the laws of motion, be communicated to the brain and medulla oblongata; juſt as a perſon holding a bludgeon in his hand, which, if ſtruck, with great force, and not broke by the percuſſion, it communicates the ſhock to the hand and arm, &c. of the holder. If, in the firſt inſtance, the ſkull is fractured, reaſon is unimpaired, becauſe the force extends no farther; as, in the ſecond, if the bludgeon which is ſtruck, breaks, the man who holds it, feels no injury from it. It is for this reaſon, that the

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ſymptoms of concuſſion or commotion of the brain, are not confined to injuries or falls on the head; they will be conſequential to violent falls and ſhocks, received in other parts of the body, unattended with fracture or diſlocation. IN ALL THESE CASES, it is the nervous ſyſtem, that is chiefly affected; and to remedy this, ſhould be the chief object of the ſenſible Phyſician and Surgeon.

To this end, bleeding, in the firſt inſtance, to me ſeems very exceptionable; for this reaſon: that for ſome little time after the accident, at beſt, but a partial circulation of the blood and animal ſpirits is kept up. Immediate evacuations, will by no means help to reſtore Nature; but, if in an hour or two, or more, oppreſſion, a full quick pulſe, &c. appear, then, no doubt, veneſection will be both prudent and neceſſary. The head ſhould be cloſe ſhaved, and chafed three or four times a day with the ſpirituous volatile embrocation, deſcribed in the laſt chapter—Lavender and roſemary, ſtrewed with ſome powdered valerian, encloſed in fine linen,

linen, ſhould be laid over the parts, after each embrocation.

To me it appears evident, from the Nature of injuries of this claſs, and from the attendant ſymptoms, that the ſhock received is principally communicated to the nervous ſyſtem; and that the diſorder ſhould be deemed truly nervous. If, in this aſſertion, I am right, —and I think I am,—veneſection, and violent evacuations ſhould be ſparingly uſed; but cephalics and ſedatives, and the nervous tribe with liberality. A perſon is thrown from his horſe, or receives ſome other external violence, in which, neither wound, fracture, or diſlocation happen. (I am not here ſtating theſe injuries, which immediately endanger life, but ſuch as frequently occur, and ſoon are relieved.) The patient remains, perhaps, for ſome little time ſenſeleſs. When he recovers a little, he is diſpoſed to puke; and it ſhould be encouraged. He now finds himſelf inclined to ſleep; and in ſome hours recovers, but, perhaps, may complain, for ſome days after, of wearineſs, and pains in his bones, or head, &c.

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Here are all the ſymptoms of a commotion of the brain in miniature; and here Nature—the moſt unerring Doctor, points out the true means of relief; and which we ſhould labour to imitate in the more violent and dangerous attacks of this kind.

To recommend ſedatives and opiates, in deliria, coma's, and other attacks on the brain, of the nervous train, I know, are liable to many great, and, if I am not highly miſtaken, ill-founded objections. All complaints of this kind, however, it is admitted, proceed from an high degree of ſenſibility, as well as irritability of the nerves; but will adding irritation to irritation, bliſter to bliſter, and the horrid combuſtion of all the phlogiſtic tribe combined, do away theſe complaints? they undoubtedly will not! If ſome happily (like the three children) eſcape this fiery furnace, it is to Nature, or its great Author, more than to their ill-directed tormentors, they are obliged for it. Yet this hopeful practice ſtill goes on—this *occidit miſeros crambe repetita!*

CASE XXXI.

IN June 1772, Miſs T———, a very accompliſhed young gentlewoman, was attacked with a fever, with all the appearances of the nervous claſs. She was treated in the uſual manner for ſome time, except, that bliſters were not applied. The evening of the 9th day, ſhe was attacked with frequent and profound ſighings, and theſe, in ſome little time, were ſucceeded by ſhriekings, which, by 11 at night, became ſo conſtant, and uninterrupted, as ſcarce to afford the ſmalleſt reſpite. The afflicted father called on me, conjuring me, by our long friendſhips, to do ſomething for his daughter, without being ſhackled by the other aſſiſtants. I could not reſiſt his ſolicitations, though it was a good deal irregular. I called on the apothecary, and brought with me a ſmall bottle, compoſed of valerian, caſtor, and thebaic tinctures. I gave her a tea-ſpoonful of this medicine, and ſtood by, to watch the effects. In leſs than three minutes, ſhe found

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ſome intervals of eaſe, and in a very few more, the ſymptoms ſeemed charmed away! She ſlept for five hours ſucceſſively; and ſoon after ſhe awoke, a ſecond attack commenced, though by no means ſo formidable as the firſt. I had directed in that caſe, that the doſe ſhould be repeated. It was ſo: She ſlept till 12, and from that time recovered very faſt; and is at this day alive and well to atteſt the fact. What would be the conſequence, had bliſters, mock julaps, and all their farrago, ſo neceſſary to the Doctor and to the Apothecary, been adminiſtered? it is eaſy to tell!

CASE XXXII.

MARY HALLORAN, ſervant to a lady in my neighbourhood, had been blooded in the arm, juſt on the flowing of her menſes, for ſome pimples in her face. They were ſuddenly checked; ſhe became oppreſſed, and in leſs than two hours, was ſtrongly convulſed. By the violent contortions of her hands and arms,

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the orifice opened, and ſhe bled profuſely. It was repeatedly bound up, but the conſtant convulſions made every attempt, even when the finger was on the orifice, fruitleſs. I was requeſted to ſee her; but I found all my addreſs to ſtop the blood, whilſt the fits continued, unſucceſsful! To check them, was the only means to ſave her life; but inſtead of bleeding in the foot, emenagogues, and medicines of this kind, I ſent for, and gave her a tea-ſpoonful of the ſedative drops, and, in leſs than 3 minutes, all was calmneſs! the arm was now bound; her menſes returned, and ſhe was quite well by evening, though very weak. What a fund for reflection!

CASE XXXIII.

THERE is, in the fifth volume of the Philoſophical Tranſactions abridged p. 357, the well-atteſted caſe of a lady, in a fever, reſtleſs, delirious, and convulſed——They, at length, agreed

agreed to give her large quantities of opiates; and, in the courſe of three ſucceſſive nights, ſhe took 102 grains of laudan. lond. 3 drams of Venice treacle, and 4 ounces of diacodium! though they procured no ſleep, yet they greatly refreſhed her, and made her ſenſible; but the people about her being uneaſy, on account of this uncommon quantity of opiates, in ſo ſhort a ſpace of time, obliged the phyſicians to alter their preſcriptions.

Upon the whole, the age of the patient, his uſual manner of living, and, above all, the ſymptoms and ſtate of the pulſe, ſhould determine, as to the evacuations. A ſlow, full pulſe, which generally attends this diſorder (and the ſlower, the more dangerous,) in my opinion, is no motive to bleeding; at leaſt, I have never experienced any ſenſible relief by it. Some diſorders, from the inſtant, are mortal; *is it then, becauſe we cannot cure,* THAT WE ARE TO TORMENT? We are, when we ſtudy beſt to diſcharge our duty, but the Miniſters of Nature; AND IN TOO MANY INSTANCES, VERY POOR ONES INDEED! Let us from her then only

only, draw our inductions. Valerian, caſtor, and all the nervous tribe, prudently combined with opiates, in very ſmall doſes, act as ſedatives, and will greatly aſſiſt in curable caſes; but if the patient be young and phlethoric, and has lived freely, the nervous medicines may be too heating. Seaſonable bleedings, but particularly in the neck, or temple, with ſmall quantities of laudanum, mixed with ſp. nitri dulc. ſp. vitriol. ten. and ſyr. de althea will do good.

CHAPTER

CHAPTER XII.

Recent Fractures of the Cranium only, attended with no particular concomitant ſymptom——Fractures ſometimes accompanied with concuſſion—illuſtrated by three Caſes; the diſtinction and mode of treatment pointed out.—A Fracture, with ſlight depreſſion, requires no operation.—A perſuaſive againſt haſty and unneceſſary exertions in this way.—Signs of ſuch Fractures, with ſeveral Caſes in point, to juſtify the Practice.—Penetrating inciſive wounds, to be treated in the ſame way.

SICKNESS at the ſtomach, puking, ſtupor and inſenſibility, immediately ſucceeding a violent injury of the head, will no longer be deemed, *even Equivocal* ſigns of a fracture of the Skull; as they are the conſtant Concomitants, and univocal ſigns of Concuſſion, but more eſpecially the two latter ſymptoms. Bleeding at the

Ears, is from the ſame Cauſe; nor will rigors, fever, &c. ſucceeding in ſome days after—theſe being the unerring ſigns of matter forming underneath. A fractured Skull tho' attended with a wound, in which the membranes and even Brain are engaged, is for many days attended with no remarkable ſymptoms. The Patient has ſcarce any Fever: reaſon is not impaired; and the whole man is collected. Inſtances however may be adduced, where ſevere Fractures have been accompanied with Concuſſion; but in theſe Caſes the Violence was ſo great, that the giving way of the Bone was not ſufficient to break the force of the Injury; and thoſe who died, periſhed from the mere Concuſſion. It is a nice point of Diſcrimination; complicated Caſes of this kind rarely happen, and I ſhall endeavour to elucidate the buſineſs, by three remarkable inſtances.

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CASE XXXIV.

PATRICK FLANAGAN, a ſailor, aged about 19, fell from the round-top of a ſhip, almoſt in my view, head-foremoſt, which ſtruck on the ſhip's gunnel. He was taken up motionleſs and ſenſeleſs, and I ſaw him immediately after. He received a large contuſed wound, which extended from the upper part of the coronal, the entire length of the parietal bone of the right ſide, and cloſe to the ſuture. The coronal bone alone was fractured, and greatly depreſſed. I haſtily dreſſed this moſt deformed wound, and ſent him to the Hoſpital, without the ſmalleſt hopes of recovery. He remained ſtupid and ſenſeleſs the remainder of the evening; and in the night, a ſmart hemorrhagy came on, which was ſoon maſtered. He continued inſenſible, and frequently convulſed, with ſcarce any pulſe, till ten next morning, when he died. Anxious to know, why he continued in the ſtate of inſenſibility to his death, *notwithſtanding the fracture*, I carefully examin-

ed the parts in about an hour after diſſolution. After ſawing round, and raiſing the roof of the ſkull, I found the dura-mater detached from the bone, the whole length of this extended fracture, but adhering with the pia-mater to the brain. The membranes and cerebrum were ſo remarkably ſunk down, that a pidgeon's egg could ſcarce fill up the hiatus! Notwithſtanding this *moſt uncommon depreſſion* of the brain, I found *no extravaſation; no ruptured veſſels!*—In every inſtance beſides, the parts of the brain appeared as uſual. No doubt can ariſe, but the concuſſion was the cauſe of his death; and that mere fractures never exhibit ſuch ſymptoms.

CASE XXXV.

JOHN BYRNE was received into the Hoſpital, the evening of July 19, 1791, having juſt received a moſt violent depreſſed fracture on near the ſuperior part of the coronal of the left

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ſide. At the inſtant he fell; and after ſome little ſtruggles puked; and ſeemed then to breathe eaſier, but remained in a ſtate of inſenſibility. Such was his ſituation when brought to the Hoſpital. A longitudinal wound of about an inch, with the depreſſion, were the only appearances. Upon paſſing the probe through this opening, it paſſed to a conſiderable diſtance. I extended this opening; and upon removing ſome of the integuments, the nature of the fracture appeared. As I found there was ſpace enough from the edge of the fracture, to apply a crown of the trephine, without encroaching too near the longitudinal ſinus, I ſet to work here, and removed the piece. Upon introducing the elevator, the fracture extended down the coronal. I raiſed ſome parts, and removed others; but the ſymptoms of concuſſion remained; and he died the evening of the next day. On examination, the dura-mater was no way tore; but the brain over the injured part, was ſenſibly depreſſed and ſunk in. On the whole, I collected enough to ſatisfy me, that the lad would have recovered of the fracture, if the concuſſion had not happened.

CASE XXXVI.

A LAD of about 18, diſtant 3 miles from this City, in a diſpute, was knocked off his horſe; and on his fall, received a moſt ſevere blow on the poſterior part of the parietal bone of the left ſide. He was taken up ſoon after, and carried to his father's houſe, juſt adjoining. A young gentleman was ſoon after ſent for; the head cloſe ſhaved and carefully examined. He had no ſymptoms, but thoſe of concuſſion. He remained ſtupid and inſenſible; and no wound appearing, the cauſe was very properly attributed to this; and ſuch medicines as were deemed proper, were, I ſuppoſe, preſcribed. He remained in this ſtate of inſenſibility five days; and the morning of the ſixth, I was called upon. The poor father gave a very affecting account of his ſituation; ſaid he was certain he could not recover; and that ſince midnight, he could not even ſwallow any kind of drink. From this ſtatement, I told him, it was idle to hope for aſſiſtance;

and recommended him to ſave his money, and go home. To do this, he ſaid he could not; for that he had been importuned by all his neighbours for two days paſt, to call upon me; and that to return without me, he could not. I found the young man in a low, languiſhing way. I felt his pulſe attentively, and perceived them ſteady and regular. Some white wine being in the houſe, I mixed ſome of it with a little water; had him raiſed up in the bed, and gave it to him myſelf. He drank it with great eaſe. I aſked him ſome queſtions, which he anſwered tolerably well. I then proceeded to an examination of the head. Neither wound or contuſion was viſible; but on the touch, I was convinced, that there was a very large fracture, extending from the poſterior part of the parietal to the occipital bone; and that the fractured part of the parietal, was hitched under the uninjured part of the bone. The depreſſion, however, was not very conſiderable. I told the people his ſituation, and even pointed out to them the fracture; but the youth was too weak to attempt much; and beſides, he had not ſufficiently recovered from the ef-

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fects of concuſſion. However, that ſomething might be done, I removed the integuments, and then the injury became viſible to every one. The operation, though expeditious, and attended with very little loſs of blood, had weakened him ſo, that his friends apprehended he was dying; but of this, I had not the ſmalleſt dread. I gave him after this a glaſs of wine; and he appeared very compoſed. The operation was now eaſy and ſafe; the trephine being to be applied at the edge of the fractured parietal. I told them, it was not to be attempted for a couple of days, or till the effects of the concuſſion diſappeared; as the preſent ſymptoms had no relation to the fracture.

I directed bark, valerian and caſtor, in ſubſtance to be given, about a tea-ſpoonful every four hours. A nervous julap was alſo directed of ſix ounces, to which I added an half dram of thebaic tincture. Seaſoned broth, a new egg beat up, and gruel with wine, were alſo to be given at times, and by no means too ſparingly. Next morning, the father came to me with joy in his eyes, and told me he paſſed a good night,

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was quite clear and collected, and greatly recruited. I desired the same process to be adhered to 'till next day; and that an operation would then come in, with great probability of success. I heard no more of him, 'till the morning of the second day; and having then other engagements, I could not attend him. He was greatly distressed; but I desired him to call on the person first sent for. For though he might have then over-looked the fracture (as indeed, would many more,) yet, it was a lucky circumstance for his son. For if he had then observed it, and proceeded directly to an operation, it would probably have ended fatally, on account of the subsisting concussion.—The youth was trepanned, and happily recovered.

Here then a fracture with concussion is established, and the signs are as clear as possible. In such a complicated case, what is to be done? the concussion being, if severe, the most alarming, is to be first and principally attended to.

There being no immediate pathological signs of a fractured cranium, but what can be drawn from the touch, the probe, and the circumstances

cumſtances attending it; to theſe we muſt refer for information, *in the firſt inſtance.* If the hurt be attended with a wound, and that the pericranium is bare, it will be proper to dilate it; and on the next dreſſing, we can be more decided. If to the denudation of the bone, a roughneſs of it be added; that the injury was very violent, and no heavineſs or ſtupor immediately ſupervening, little doubt remains of the exiſtence of a fracture. However, this will not be ſufficient authority, to proceed to an immediate operation, as this very intereſting chapter will demonſtrate. If there be no wound, and that the integuments appear contuſed, a compreſs wet in ſpirits, may be laid over the parts, the patient bled; and in a day or two more, weighing maturely the nature of the injury, and the clearneſs of the patient's perceptions; you will then conſider, as the ſkull only has ſuſtained the injury, whether it had, at the ſame time, power ſufficient to reſiſt it. One concluſion we may generally draw on theſe occaſions; which is, *that the ſlighter the injury, the integuments ſuſtain in ſe-*

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vere hurts of the head, the greater the probability, of the bone's being fractured.

From this account of fractures in general, the reſult of above 30 years diligent obſervations, and moſt extenſive practice ; many inductions, highly intereſting to the Public, and to Surgery may be drawn. It may probably prevent Surgeons of eminence IN FUTURE, from gravely relating, their having removed the fleſh from different parts of the ſkull— Nay, often trepanning, in ſearch of ſome latent fracture ! A fracture ought only to be ſought for, where the injury is received. No danger can ariſe from delaying this enquiry for two or three days ; and if it ſhall now appear, that many fractures require no operation whatever, our ſolicitude about latent fractures will ceaſe. For, it is by no means a conſequence, that becauſe, the ſkull is fractured, trepanation muſt follow ; and this proves, how little attention has been paid in theſe later days, to the ends propoſed by this operation. For a fracture of the ſkull, merely as ſuch, will heal as ſafely, as that of the leg or the

arm.

arm. It is where the bone is depreſſed on the brain; it is when we apprehend, that the depreſſed parts may form acute angles, which in the courſe of many days, may cut through the membranes, and wound the brain itſelf, that the operation becomes neceſſary; nor can I conceive any apparent objection to this doctrine, but what may ariſe from a ſuppoſition, that as a fracture of the head, neceſſarily implies a ſeparation of the dura-mater from the cranium, at the injured part, this circumſtance alone, makes the operation indiſpenſable. But after trepanning, do we not introduce the elevator, to raiſe the depreſſed parts, detached from the dura-mater; and do they not afterwards firmly unite? where there is a fracture with a ſlight depreſſion, which demands no operation, why ſhould not they again reunite? they undoubtedly do!

In fractured heads, when upon removing the integuments, a ſimple diviſion of the bone only appears, and the depreſſion at its edges but ſlight; when by a preſſure of the finger *here*, no encreaſed pain or heavineſs appears, there is every reaſon to expect, that

we have little elſe to do, but to dreſs the wound lightly with ſoft lint, nor ſuffer it to make much progreſs in healing for 12 or 13 days; when, if no heavineſs, drowſineſs, or ſtupor appear, we may conclude all is ſafe within; and then treat it as a common wound. But where there is any conſiderable depreſſion of the bone, or the fracture at all extended, the ſooner the operation is performed, the better. For though, in the firſt inſtance, we may ſafely delay the operation; yet, I think it much more ſafe and prudent in fractures of the ſecond claſs, not to wait for ſymptoms of depreſſion.—Here follow a few inſtances of the ſucceſs of this practice, in the more ſimple fractures.

CASE XXXVII.

ANN MITCHELL, in September 1760, received in a riot, a violent ſtroke of a ſtone on the forehead, and near the frontal ſinus. Next morning

morning ſhe came to me, a kind of *refugium peccatorum*. Upon examining, I found the bone rough and bare. On dilating the parts, the bone was ſo clearly divided, that I could, and did introduce through the aperture a probe to the dura-mater; but there was ſcarce any depreſſion; and ſhe complained, that the cold was piercing into her brain. Bleeding, and a light antiphlogiſtic courſe was purſued for ſome days; the parts lightly dreſſed, and carefully guarded againſt the cold. In about 12 days, I ſuffered the wound to heal; and for many years after, to my knowledge, ſhe enjoyed good health, and is probably yet alive.

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CASE XXXVIII.

IN a very ſhort time after, Mr. S. Goggin, in riding through the town, was thrown from his horſe, and a car loaded with butter on the inſtant paſſed over his forehead, fractured the frontal ſinus, tore off part of the ear, and he was likewiſe ſeverely wounded on the occiput. Some parts of the bone being looſe, I ſeparated from the integuments, and replaced others more adherent; and dreſſed the entire with lint. As he was above ſixty, I neither bled nor kept him too low. In ſome time, the fractured parts formed a ſolid union, the wounds healed kindly; and for many years after, he enjoyed perfect health, without experiencing the ſmalleſt inconveniency from this ſevere injury!

CASE XXXIX.

MRS. GROGAN, a ſhop-keeper of this city, in letting down her window, fell into the ſtreet, May 20, 1760, and received a violent contuſion on the forehead, from a projecting ſtone in the pavement, beſides other hurts of a more trifling nature. Next morning I was ſent for; and found a conſiderable ſwelling, which to the touch, ſeemed to contain a fluid; but as I had often ſeen tumors of this kind ſubſide in three or four days, by the uſe of compreſſes wet in ſpirits, I treated this in the ſame way. The tumefaction however continued; and in five days after, I propoſed opening it, which ſhe would not permit. The 6th of June, ſhe again ſent for me. The tumor was ſtill the ſame; but the fluctuation not ſo ſenſible. I opened the part, and a good deal of coagulated blood diſcharged. She complained all that and the next day, of great pain, and bloody ſanies came from the ſore. I now found the cra-

nium

nium not only bare, but a conſiderable fracture of the coronal, with ſome depreſſion. On removing part of the integuments, and preſſing with my finger, it remained firm to the touch, nor did ſhe complain of pain or heavineſs from it. I kept the wound open ſome days longer; and finding no alarming ſymptoms appear, I ſuffered it to heal; which it did about the end of the month. I recommended her to keep the forehead warm for ſome time, on account of the tenderneſs of the parts, and thinneſs of the cicatrice. This ſhe neglected. In ſome days after, leaning over a garden wall, with the wind in her face, ſhe was ſeized with a violent pain in the parts, and as ſhe deſcribed it, piercing into the brain. She went home, went to bed, ſlept little, and was in an high fever all night. I ſaw her next morning, found the forehead greatly ſwelled, and let out a conſiderable quantity of matter, formed in a very few hours. This complaint I attributed to the cold, the tenderneſs of the parts, and the callus not being ſufficiently formed. In ſome time it got well; and ſhe took care to

keep the parts covered from the external air, and ſuffered no further complaint.

CASE XL.

JULY 12, 1761, a gentleman's daughter, a mile from this city, and aged about 4 years, fell over the turn of a ſtair-caſe, a conſiderable diſtance, and was pitched on her forehead. She was immediately taken up, apparently dead, with her eyes ſtarting out of their ſockets; but in about three minutes ſhe diſcharged her ſtomach, and recovered. Soon after I was ſent for. She ſeemed quite ſprightly, without any complaints; but on an inſpection of the parts, I perceived the coronal bone, on its anterior and ſuperior part, and bordering on its center, beat in; for the depreſſion was ſo conſiderable, as not to admit a doubt that both tables were engaged. Conſidering the pliableneſs of young bones, and being ſo near town,

I requeſted

I requeſted aſſiſtance before any reſolution ſhould be formed; and Dr. Lloyd and Mr. Mahony were ſent for. We agreed to open the integuments of the injured part, and a good deal of blood followed. We found the depreſſion conſiderable, and the ſurrounding covering thin. The wound was lightly dreſſed, the child bled, and next day was to determine, what further was to be done. She paſſed the night calm and eaſy; and it was agreed to keep the wound open for ſome days, and the child low and cool. The 14th, no alteration, except a tumefaction on the noſe. The 15th, ſhe diſcharged about three ounces of blood by the noſe. The 16th, a ſwelling appeared under the ſymphyſis of the lower jaw. This gradually leſſened. In a word, the ſore was ſuffered to heal; which was accompliſhed by the 28th. She never ſince ſuffered the ſmalleſt inconvenience; but the depreſſion in the bone was for a long time ſenſibly perceived. However, I muſt remark, that had this child been at the age of about 13 or 14, when the accident happened, delaying the trephine might be attended with dangerous conſequences. For it is

an object of great conſequence to know, and to be aſſured, that it is not a mere fracture that makes the operation neceſſary, but the conſequences of it. That is, where the bone, by its depreſſion, oppoſes the pulſation of the brain; and probably points of it, by degrees wearing through the dura and pia-mater, and even wounding the brain itſelf. Now, in young ſubjects, the bone oftener bends than breaks; and, of courſe, leſs apprehenſion of points and angles of it forming within. I have often been called in to children, with ſuppoſed fractures, particularly of the fore arm. I have found the bones, inſtead of being broke, bent in, like a green ſtick; and I have reſtored them to their uſual form, by very gentle force.

CASE XLI.

A BOY, about ſix years old, the ſon of a gentleman, ſix miles diſtance from this city, received a kick from an horſe, on the ſuperior middle part of the occiput, cloſe to its connections

nections with the parietals, in the evening of the 25th of May, 1768. I viſited him early next morning, and on examining the ſmall wound inflicted, plainly perceived the bone fractured and depreſſed. I laid the part bare, and found the fracture of the breadth of a ſilver crown, and one part beat in above one-fourth of an inch from its level. I would have immediately trepanned, but for the very critical ſituation of the injury; but to avoid any cenſure, I deſired Mr. Mahony to be called in. We ſaw him next morning; and every circumſtance minutely conſidered, we agreed to poſtpone any operation, 'till ſome threatening ſymptoms juſtified its neceſſity; but deſired the child to be ſent to town. In ſome time, nature did her own buſineſs, by detaching the fractured parts; and the boy got perfectly well.

CASE

CASE XLII.

SAMUEL HARTE, a clothier of this city, in a riot about 3 miles from town, received ſome injuries; but the moſt ſevere, was a contuſed wound on the upper part of the right parietal, of about two inches long, with a bare bone and fracture. Though the fracture was very viſible, and extended the length of the wound; yet, after removing ſome of the fleſh, I found very little depreſſion, and the preſſure of my finger produced neither pain nor heavineſs. As a trial for life would be the conſequence of his death, I acted with great caution. I brought two or three gentlemen to be ocular witneſſes of the fracture; and though, every thing conſidered, I would act a more prudent part in trepanning him, than in omitting it; becauſe, in caſe of death, no blame could lie at my door by the operation, as having done every thing for the ſick; whereas, by its omiſſion, his death might be imputed to neglect or ignorance: However, always conſidering

my own peace of mind of more importance than pecuniary rewards, or public applauſe or cenſure as I ſaw no apparent neceſſity for the operation, I declined it, but otherwiſe paid great attention to the ſymptoms. In the courſe of 4 weeks, the bone became covered, he never felt the ſmalleſt inconveniency afterwards from this injury. It happened the 10th of May 1786, and he has ſince enjoyed perfect good health, being a native of this city.

CASE XLIII.

M'NAMARA, a fiſherman, ſome time ſince, encroaching too near the precincts of our Salmon-weir, as many of them do, was attacked by the guard; and with other injuries, he received a violent contuſion on the middle of the coronal bone. He remained at home for five days, and was then brought to the Hoſpital.

Hoſpital. His pulſe were full and ſtrong, and he complained of a violent head-ach. On introducing a fine probe, through a ſmall opening in the ſore, I perceived the bone rough and bare. I immediately removed the bruiſed integuments from the bone, and ſuffered the parts to bleed freely, which I thought would afford more immediate relief than the lancet. Next day he complained much of his head, and I found a fracture without any depreſſion. I ordered powders of nitre and jalap, to open the body, with the ſaline mixture, and a large bliſter between his ſhoulders, which was to remain on for 24 hours. The effects of the bliſter removed this complaint, and things went on well till the tenth day from the hurt, when he was ſeized with moſt ſevere ſhiverings. I ſhould have deemed theſe, the ſymptoms of matter forming on the brain; but I ſuſpended my opinion for two reaſons. The ſore looked florid, and diſcharged laudable pus; and in the courſe of many hundred caſes of fractured ſkulls that had fallen to my ſhare, I never met with a ſingle inſtance, where matter was formed on the dura-mater, with the alarming ſymptoms,

toms, attending ſuch, as are ſubſequent to wounds of the pericranium. (See chap. 3 and 4.) I therefore ordered him the peruvian bark in ſubſtance. In about four days, theſe ſymptoms diſappeared, though freque ny recurring during that time; and it is very many months ſince he has been abroad and well.

From theſe few inſtances, to which more could be added, it becomes demonſtrable, that fractures of the cranium, merely as ſuch, do not neceſſarily require the trephine. It is only where they are accompanied with conſiderable depreſſion, or that pieces of the bone are nearly detached and preſs on the brain, that this operation becomes indiſpenſable. It muſt then become a neceſſary concluſion, that wounds of the bone, by inciſive inſtruments, whether penetrating through both tables to the brain, or only partially wounded, have leſs occaſion for any operation, tho' too frequently performed. To what has been already ſaid, one ſtriking inſtance to this point, will be as concluſive as one thouſand.

CASE

CASE XLIV.

EDWARD POWER, at the time a waiter at a tavern in this city, and ſince then a porter, came at an early hour to my houſe, on the morning of the 24th of June, 1760. He had been all night rioting at the fair, and received a deſperate wound from a back ſword, on the coronal bone. It ſtretched obliquely from its upper extremity through the orbit, forming a frightful chaſm, in which were included the integuments, bone, membranes, and brain! It bled profuſely for ſome time, as might well be ſuppoſed. He came to me bare-headed, without the ſmalleſt covering to this wound; and had thus remained in the open air for above two hours. Conſidering the nature of the wound, the intemperance of the fellow, and its being ſo long expoſed, I concluded a violent inflammation of the brain would follow. Yet, except two or three bleedings, and a few other anti-

antiphlogiſtics, this man got completely well in five weeks, without the ſmalleſt unpleaſant ſymptom. La Motte mentions a ſtill more ſevere wound of the head, which healed with very little trouble.—— Vol. 2. p. 343.

CHAPTER

CHAPTER XIII.

The Trephine formerly rarely applied.—The indiſcriminate uſe of this operation, for a conſiderable time paſt much to be lamented.—As cruel and dangerous, not to be attempted, without manifeſt neceſſity.—The wanton abuſe of it cenſured.—The dangerous principles of concuſſion and extravaſation conſidered.—The wonderful advantages of this operation, when judiciouſly directed.—Depreſſed fractures divided into ſimple and compound—When early attended to, ſeldom dangerous.

THE operation of the trepan is very ancient; but being confined to particular parts of the head, at times, when anatomy was little cultivated, it was ſeldom performed, without great caution and circumſpection. For it was forbid, over, or near the ſutures, over the os

ſqua-

ſquamoſum and occipital bone. And this explains an anecdote preſerved in our hiſtory, reflecting high honour on the ancient ſtate of phyſic in this country. For *Connor Mac Neaſſa*, King of Ulſter,——that generous protector of the literati of his day, and cotemporary with Julius Cæſar—having had his ſkull fractured in battle, and his life almoſt diſpaired of, his firſt Surgeon *Finighin* propoſed this operation, as the only means of relief, provided the nobles of his country would protect him from cenſure or injury, in caſe it did not ſucceed. The operation was performed, and the King recovered!

The obſervations of the laſt and preſent centuries prove, that there are very few parts of the head, on which the operation of the trephine may not be performed when neceſſary. And this information ſhould certainly involve in itſelf another enquiry; namely, *What are the particular caſes which neceſſarily demand any operation?* However, no ſuch enquiry has been ſet on foot, at leaſt with any effect, TO SHEW WITH PRECISION, theſe caſes which require ſo

ſevere

ſevere a trial; *and concuſſions of the brain, depoſits of matter on this organ*, fractures ſimple or compound, &c. have all for their *panacea*, the trephine!

Let us in a few words, examine the nature of this operation, not in a medical, but in a moral light. Not from the good reſulting from it, in thouſands of inſtances, but from the injury the conſtitution receives, and the patient ſuffers by it.——A fracture of the ſkull, by what means ſoever inflicted, is ſudden—is inſtantaneous. A wound, with a conſiderable fracture and depreſſion may be the conſequences; but if this is not accompanied by ſevere concuſſion, which is rarely the caſe; we ſee no alarming ſymptoms accompany it; except the conſequences of compreſſion, and theſe rarely appear, ſooner than the ſixth, ninth, tenth, or fifteenth day. Let us now ſee what are the means uſed by art, to relieve this complaint, and ſnatch the patient from death. Some make uſe of a crucial inciſion, through the integuments and pericranium to the ſkull; but the beſt and moſt expeditious method, is, a circular

cular ſweep, including in its vortex, all the parts neceſſary to be removed; the fleſh is carefully ſeparated; and the pericranium torn from its adheſion to the bone. A conſiderable opening is now made in the ſolid uninjured bone; the dura-mater expoſed; and at beſt, the Surgeon has ſecured to himſelf employment enough for a couple of months, to bring things about again! Is an operation of this conſequence, infinitely more ſevere and violent, than the cauſe that gave riſe to it, to be wantonly or capriciouſly attempted? Will bare ſuſpicions of its neceſſity, be ſufficient to juſtify the attempt? Should not its neceſſity be apparent; or is it a conſequence, becauſe we cannot cure, we ſhould torment?

I am led into theſe conſiderations, from a peruſal of two memoires of M. Queſnay's, in the firſt and ſecond volumes of the works of the Royal Academy of Surgery. In theſe he has collected a number of the moſt dangerous that ever were attempted; and the point he has in view, is to encourage Surgeons to ſtill

greater

greater acts of temerity in this line! for inſtance: Mr. Caringoct applied ſeven different crowns of the trephine, to raiſe a piece of bone lodged in the longitudinal ſinus, and *which kept the patient in a moſt profound lethargy* till removed! M. Marechal, on another occaſion, he tells us, made uſe of no leſs than 12 crowns of the trephine. Another removed almoſt the entire coronal; and not content with the trephine and elevator, he had recourſe to ſaws, files, wimbles, mallets of lead, gouges, &c! I will not enter into a critical enquiry, as to the cauſes that gave riſe to theſe operations; nor to the neceſſity of performing them; but with great deference to ſuch reſpectable authorities, I am not nevertheleſs afraid to affirm, that no curable injury that the head ever received, could, in ſound practice, juſtify them! There is an old ſaying, *Periculum facere in corpore vile*; and, I ſhould ſuppoſe, theſe gentlemen might be rather tempted to try, how far Nature was capable of ſuſtaining human outrages, than any good they could expect! As to the laſt caſe of M. De La Peyronie, I affirm, that I have effectually cured a great variety of extended

tended caries of the bones of the head, accompanied with ſordid ſtrumous ulcers, by the frequent application of the actual cautery, to the parts immediately affected. A remedy, tho' formidable in appearance, is nevertheleſs attended with *very little pain, and moſt aſtoniſhing ſucceſs!* nor had I ever once occaſion to uſe the trephine!

The operation of the trephine is undoubtedly a very painful one, and ſhould by no means be performed without good authority for ſo doing. In concuſſions of the brain, it ſhould never be attempted; for here there is no fracture—no extravaſation; nothing can give the leaſt countenance to it. I had from an early period fixed my mind, as to this point, from the frequent opportunities I had of examining and reporting to inqueſts and juries, the ſtate of the different people who died this way. I will not deny, but many inſtances could be adduced, where people have recovered of theſe complaints, after trepanning; and that the cure has been attributed to the opera-

tion. But I am certain it had not the ſmalleſt ſhare in it, whatever it might have, in adding to the danger of recovery, and to the delay of the cure. It having appeared to the *Academy of Surgery*, that of people who died of concuſſions of the brain, when opened; in ſome, an extravaſation of blood appeared; in others, none—a queſtion naturally aroſe; namely, what are the concomitant ſymptoms of concuſſion with extravaſation; and what theſe, where no extravaſation exiſts? M. Petit attempted to diſpoſe of the queſtion thus. Loſs of ſenſe and ſpeech immediately ſucceeding the injury, are indubitable proofs of a ſimple concuſſion; when they ſucceed in ſome time after the accident, they are the proofs of extravaſation! Monſ. Le Dran, (Obſervations de Chirurgie, T. 2. p. 134.) goes further to determine this queſtion. He thinks the immediate loſs of ſenſe the effect of the concuſſion; but the lethargic inſenſibility following it, the univocal and decided proof of extravaſation. Mr. Pott ſeems to adopt this doctrine; and thinks the operation ſhould follow. It is a

queſtion

queſtion of great magnitude; and much ſervice will be rendered by a thorough inveſtigation of it.

To a certainty, the immediate loſs of ſenſe and ſpeech, can be attributed to concuſſion ONLY; and its longer or ſhorter continuance, to the ſame cauſe, and no other! the ſymptoms of extravaſation do not appear for ſome days after; and are in fact ſymptoms of a different nature, and any accurate obſerver can eaſily diſtinguiſh them. It has been affirmed, to juſtify the neceſſity of trepanning, that extravaſated blood produces the ſame appearances in a ſhort time that concuſſion did. It certainly does not! Every man of tolerable practice in this way, muſt have met with *particular* caſes, where, upon removing the bone in the bore of the inſtrument, even before the depreſſed parts are raiſed, blood pours out rapidly, without any previous lethargic appearance. The blood that ſometimes pours out, is the conſequence of ſmall veſſels ruptured by the ſtroke or fall. This ſurely cannot make

ſo ſevere or awkward a preſſure on the brain or its membranes, as pieces of the bone itſelf, beat in, and confining the motion of the brain; yet, we frequently meet with conſiderable fractures, with depreſſion, which though many days unrelieved, exhibit no comatous or lethargic appearances. But in wounds of the pericranium, ending in abſceſs, and too often in death, even when this matter is formed, are the ſymptoms ſimilar to thoſe attending concuſſion? They are not! inſtead of an immediate deprivation of ſenſe and ſpeech, the ſymptoms come on gradually. The appearance of the ſore gives the firſt alarm. Violent tremors, ſickneſs at ſtomach, head-ach, and fever follow, without any immediate ſtupidity or inſenſibility; and in many inſtances, they preſerve their intellects to death!

It may be probable, that the ſame injury that produces concuſſion, may SOMETIMES produce extravaſation, although I never met with a ſingle inſtance of it; but here the matter muſt reſt; ſince the continuance of the

ſymptoms

ſymptoms ought not, nor cannot be reſolved into the latter appearance, nor do I think, can by any means juſtify the operation. If, indeed, the ſigns of concuſſion diſappear, and that in three or four days, formidable appearances of another nature, make their approaches, then the cauſe is to be ſought for, and the proper relief offered. Should ſigns of matter forming on the brain appear, or theſe of a depreſſed bone——for even in both inſtances, the appearances differ—then recourſe muſt undoubtedly be had to the operation.

That violent blows, falls, or other external injuries, do often produce extravaſation, is what every one knows. To what other cauſe can we attribute the formation of matter, and ſometimes of water, on the membranes or ſurface of the brain? But do not the gradual approach of the ſymptoms proclaim the cauſe; and are theſe ſymptoms ſuch as accompany concuſſion? Every Surgeon knows they are not! Again: a ſevere fracture and deep depreſſion of the bone, will, if not relieved, bring

on heavineſs, dozing, lethargy, convulſions, and death; but do any of theſe appearances bear any relation to the IMMEDIATE loſs of ſenſe and ſpeech, attending concuſſions? none, that I know of. In more than an hundred very extended fractures, with ſevere depreſſion, that I have ſeen unrelieved for ſome days, yet, in all, they have preſerved their ſenſes—indeed ſome, after paſſing five or ſix days, others later, have been attacked with heavineſs, dozing, and lethargic appearances, the conſequence of depreſſion; and though the cauſe exiſted from the firſt moment, yet the effects of this cauſe gradually followed. It muſt not, however, be denied, that in ſome caſes, loſs of ſenſe and ſpeech immediately ſucceeded, *in a few fractures:* in ſome, they went off, when the cauſe of concuſſion was removed; in others, not, till the preſſure of the bone was removed; but what does this prove, but the effects of a double injury? A fracture, accompanied with concuſſion! Mr. Pott ſuppoſes, that the continuance of the ſymptoms, may proceed from extravaſation; but can a ſtronger proof

proof be adduced to oppoſe this opinion, than the inſtance of Mr. S. (ſee caſe 28.) this gentleman laboured under moſt ſevere ſymptoms of concuſſion for eighteen days, without the ſmalleſt remiſſion; and yet got a complete cure without the interpoſition of the trephine; and the operation moſt probably, at any period of this complaint, would cloſe the ſcene in ſhades and death: to a certainty, it could not promote his recovery! But is not the bone's reſiſting the impetus the cauſe of concuſſion? How can this be ſucceeded by extravaſation, when the bone and membranes are always found uninjured?

Having, I hope, with *preciſion*, pointed out the caſes, in which this operation ſhould not be attempted; the following ſheets, will, I apprehend, prove its aſtoniſhing utility, where it is abſolutely neceſſary. If profeſſional men have ſpoken of it with diffidence; have lamented its uncertainty in too many inſtances, it moſt certainly muſt have proceeded from their not taking down the caſes immediately; or for

want

want of a ſufficient number of caſes, to aſcertain the facts. Through ſome defect in our police, *or from the horrid principle, that the encreaſe of the Revenues of the Crown, are preferable to the health and morals of the people;* or from whatever cauſe originating, yet, certain it is, that our malt ſpirit, called *Whiſkey*, is diſſeminated through every part of the kingdom; nor can the ſmalleſt village be ſeen, without three or four notices hung up at wretched cabins—"LICENSED TO SELL SPIRITS!" Thus fairs, patrons, and public meetings begin with feſtivity, and end with broken ſkulls! This is the beſt apology I can make for my well-earned, though very unprofitable, experience in this department of my profeſſion.

I diſtinguiſh fractures of the head, into ſimple and compound. By the firſt, I mean, thoſe in which the cranium is broke in one place only, with or without a wound. By the ſecond, where there have been two or more fractures on the ſame bone. Every fracture with depreſſion,

depreſſion, neceſſarily demands the operation; and though ſome particular caſes may be adduced, where Nature has ſomehow or other brought about the buſineſs of healing, yet, it is by no means to be truſted to; and the Surgeon is inexcuſable who fails to attempt, at leaſt, to propoſe and preſs it. I have ſeen many fatal effects from this omiſſion. I remember to be conſulted three times in the courſe of one week, by people from the country, with fractured ſkulls. One laboured under this complaint eight days; the ſecond, twelve; the other fifteen, and all were perfectly clear in their intellects. They came ſeemingly determined to ſubmit to the operation, but conſidering themſelves free from much complaint, they returned back, and all died in the courſe of a very few days after. One, I remember in particular, who rode to town and back, died the day after.

Simple fracture of the cranium, with depreſſion, when relieved on the ſpot, or in the ſpace of two or three days, almoſt always terminate

minate happily. In the courſe of more than 200 accidents of this ſimple kind, I cannot recollect a failure in a ſingle inſtance. A dull recital of ſuch caſes, would only ſwell up this work, without adding to the bulk of information, which is my only object. I ſhall, however, ſelect three caſes, becauſe they are curious.

CASE XLV.

IN May, 1773, a Dutch ſailor was brought to the Hoſpital, with an extended fracture on the left parietal bone, with conſiderable depreſſion, received from a ſoldier in a riot the preceding day. I proceeded to the operation in the preſence of a good many gentlemen; but, ſo thick a ſkull, I never met with! In a word, it took me 15 minutes to reach the dura-mater, though I have a light hand, and operate with more

more expedition, than the generality of my brethren. The depreſſed parts were raiſed, and the man did well; and has been here two or three voyages ſince. I introduce this caſe, as an inſtance of an uncommonly thick bone *only*—for during ſome part of the operation, I was uncertain how the buſineſs would end on this account.

CASE XLVI.

IN June, 1781, the coachman of Mr. White, got his ſkull fractured in a riot, and was brought to me ſoon after. The coronal bone on the left ſide, and near its junction with the parietal, was the injured part, and the bone was conſiderably beat in. I removed the integuments, and proceeded directly to the operation. On taking out the piece in the crown of the inſtruments, near three ounces

of

of liquid blood poured forth, and on raiſing the depreſſed parts, more followed; yet, this man was as clear in his intellects, before and after, as ever he was. It need not be added, that he did well, in the uſual time.

CASE XLVII.

A CHILD, of about ſeven, was admitted into the Hoſpital November 15, 1784, having juſt received a kick from an horſe, by which the right ſide of the coronal was fractured, with conſiderable depreſſion, and the integuments were much contuſed, but not broke.—On the ſpot I removed the fleſh, but it being late, I deferred the operation to the next day. I found him then fluſhed in the face, his ſkin hot, and his pulſe feveriſh; but I by no means deemed this derangement, ſince the preceding evening, to ariſe from any conſequence of the hurt, as I had never met with a ſimilar complaint,

plaint, to follow ſo ſoon after a fracture, or indeed, after any external injury of the head. I proceeded to the operation, raiſed the depreſſed parts, and dreſſed the ſore. Deeming the fever a matter totally diſtinct from the ſore, I ordered ſmall doſes of nitre, with about a grain of jalap, to be given once in four hours, with the ſaline julep, till the bowels were two or three times emptied. He, however, paſſed an indifferent night, being very reſtleſs, hot, and ſubject to ſtarting. Next morning I directed blood to be taken from the arm, and the ſaline julep, with ſp. nitri dulc. and ſyr. de althea. The evening of the third day, the ſmall pox began to appear. It was of the diſtinct kind; but he had a plentiful crop! the ſore went on well, and he got cured in the uſual time. This complex caſe, was out of the common line, and proves how much a diligent explorer of Nature's laws, and Nature's works may depend upon his obſervations.

CHAPTER

CHAPTER XIV.

A Perſuaſive againſt wanton recurrence to the Trephine—A Caſe, where its repetition was unavoidable—A ſecond to prove its utility—A repetition of the Trephine, ſeldom neceſſary in extended Fractures—The great advantages produced, by a careful management of the Scalp.

THE removing of the integuments, being in itſelf an operation extremely painful, and the expoſing of the dura-mater to the acceſs of the external air, being by no means exempt from danger, the humane and conſcientious Surgeon ſhould ſtudy to alleviate theſe diſtreſſes, which he himſelf may be as much expoſed to as other people. Inſtead of ſeven, and of twelve crowns of the trephine: inſtead of the auxiliary aid of *gouges*, *mallets*, *files*, &c. he ſhould ſtudy to relieve Nature in the gen-

tleſt

tleſt and ſafeſt manner. There are very few fractured ſkulls—*I am certain there are none*—that demand ſuch terrible repetitions! To avoid theſe, he ſhould be very circumſpect, as to the place of election; not but that there are particular caſes, which make a repetition of the operation unavoidable.

CASE XLVIII.

THE daughter of one Doherty, a rope-maker, was run over by a ſervant of the late Engineer General Eyre's, riding furiouſly from Caſtle-Connel to Limerick, and the parietal bone of the left ſide beat in ſurpriſingly. In about an hour after, ſhe was brought to me, quite compoſed, and ſeemingly in little pain. I found the miſchief ſo extended, and the depreſſion in the center of the fracture ſo profound, as to demand repeated crowns of the

trephine.

trephine. I requeſted of Mr. Wallace, a military Surgeon, and Mr. Pierce, to aſſiſt me in this charitable buſineſs. On removing the integuments, much blood poured from different ſmall arteries. The preſſure of different fingers on the ſcalp, and over theſe little fountains, ſoon reſtrained the blood. I perforated at the lower edge of the fracture, and again on its upper; but two elevators, though acting in concert, could not come under the center of the depreſſion. We ſaw the neceſſity of making more openings, and accordingly one was made on the anterior, and the other on the poſterior part of the bone, in parallel lines: four levers were employed at once, and after ſome little efforts, the parts ſprung back with ſurprizing elaſticity to their original place, and appeared quite cloſe and compact. Notwithſtanding the great extent of bone laid bare, and the different openings in it, yet not the ſmalleſt accident, or diſagreeable ſymptom followed. She got well in the courſe of about eight weeks, is ſtill alive, and has been ſince the mother of many children.

How

Here the neceſſity of theſe different perforations was manifeſt, ſince the depreſſion muſt certainly remain, if not performed ; and what the conſequence would ſoon be, the following melancholy recital proves.

CASE XLIX.

THE evening of the 13th of May, 1784, Patrick Caſey, a gentleman's ſervant, aged about 18, being ſomewhat in liquor, and leaping a vicious horſe, he was thrown off; and the conſequence was, a conſiderable fracture on the right ſide of the coronal bone, near the temple. I was prayed to viſit him next morning, and finding part of the fracture puſhed under the ſound parts, in its lower extremity, I deſired the people to ſend him directly to the Hoſpital, and that I would charge myſelf with his attendance. But this he would not com-

ply with, ſaying, he was willing and able to pay for advice and aſſiſtance. I ſent for a military Surgeon of my acquaintance, who was kind enough to attend me on many occaſions. The apparatus was ready, and I was juſt going to proceed to the operation, when a Surgeon of the city came in, being, as he ſaid, ſent by his maſter. I intended to perforate the bone, juſt on the edge of the fracture, where the bone was locked in, but this was oppoſed. It was ſaid, that trepanning ſo low down, would leave a diſagreeable deformity, as it ſurely would; and that the end of the operation would be as well anſwered, by operating on the upper part, where the injury would not be ſo much in ſight. In vain, I obſerved, that the elevator, from this place, could not reach the center of the depreſſion; and even though it ſhould, how could it promote the elevation of the bone, wedged in under the other extremity? I ſaw the friends of the boy, as well as himſelf, wiſh to have it done ſo. I trepanned, introduced the elevator, but could make no impreſſion, the lower edge of the fracture being beat

beat under the ſound bone. The end of the operation being by no means anſwered, I propoſed a ſecond perforation, where in fact, it ſhould be at firſt performed. But it was obſerved, that, as the parts ſeemed open, and a free iſſue given to adventitious blood or pus, no danger could be apprehended, and the iſſue of matter would gradually detach the bone, which would probably come away in ſplints, which, indeed, has ſometimes happened, though never to be truſted to. The parts were carefully dreſſed ; but the dura-mater never aſſumed a right colour. However, his ſpirits were good, and he had no complaint, but what aroſe from the ſore itſelf. The diſcoloration of the dura-mater, made me try the effects of the elevator the 19th, and again the 22nd, but ineffectually. He was up every day. The 28th, he looked out of the window for ſome time, and towards night-fall, he grew remarkably hot, and had two or three ſhaking fits. This alteration was aſcribed to his making too free with himſelf; but I, who ſtudy Nature attentively, ſaw at once, that

there was a formation of matter, and dreaded the conſequences. Next morning I ſent for my friend, and for the gentleman who oppoſed the ſecond opening; but he was abſent. Ever conſidering the life of man ſuperior to chirurgic Aſtutia, and ſcorning to ſhelter myſelf under imaginary cauſes, where real ones exiſted—I told the people, that theſe alarming ſymptoms proceeded from the conſtant and uniform preſſure of the broken edge of the bone on the brain; and that any chance, yet remaining for recovery, muſt be procured by a ſpeedy removal of the cauſe. With much difficulty, they conſented to a ſecond operation: the depreſſed part was ſoon raiſed up to its level; but, alas, the miſchief had been already compleated! that day, and the next, he ſeemed ſomewhat lighter; but about ten at night, his neck was obſerved to be covered with a bloody ichor, iſſuing from the ſore.—— Next morning his pulſe were more languid, and the dura-mater quite black. Towards evening, the bloody ichor encreaſed. He became ſlightly convulſed, with an incipient ſtupor.

por. About ten, the ſubſtance of the brain poured forth, and he expired next morning !

In the courſe of much more than thirty years practice, I never had occaſion to recur to a ſecond operation, but in the above two caſes. The firſt was unavoidable, from the nature of the injury ; but it is manifeſt, that in the laſt caſe, had the opening been properly made at firſt, the boy would have recovered, and we ſhould not be inſtructed by his fate, in the leſſon, that the points of a fracture conſtantly oppoſing the pulſation of the brain, will, in time, cut through the membranes, and wound the brain ; and more extraordinary whilſt this tragic ſcene is going on behind the curtain, we have no particular ſymptom to aſcertain the fact, till it is proclaimed by convulſions and death !

I have ſaid already, that the Surgeon ſhould pay great attention to the point of election for his operation ; and if he does, he will ſeldom be under the neceſſity of recurring to a ſecond.

In moſt fractures, with conſiderable depreſſion, the diſeaſed bone is ſloping, and the deepeſt impreſſion, is nearer one edge of the ſound bone than the other. This is the *preciſe ſpot for action;* and here you will ſurely ſucceed. In removing the integuments, a liberal uſe of the knife is generally recommended and practiſed, in order to bring all the injured parts to view. I had alſo adopted this practice; but the numbers of caſes that fell to my ſhare; and that reflection, which every humane perſon ſhould adopt, inſenſibly led me into a better and a ſafer practice. New caſes convinced me, from day to day, that much pain, danger, and delay, might be ſaved by a milder method, and without fatiguing my readers with a dull recital of caſes and experiments; I ſhall at once proceed to the practice I have uniformly followed in all ſuch caſes, for thoſe laſt 15 years paſt. It has proved of great advantages to my own patients; and I pledge myſelf, that whoever adopts it, will find no cauſe to complain.

Let us, for example, ſuppoſe, an extended fracture on the ſide of one of the parietal bones,

with a ſevere depreſſion, without a wound of the integuments. The touch will to a certainty direct you to the point of the bone deepeſt immerſed. The head being cloſe ſhaved, place the crown you would wiſh to uſe over the found bone, to the edge of the depreſſion. With a pen, at the diſtance of about a line from this crown, on every ſide, mark its periphery on the head. Then proceed with your knife, to make a circular ſweep, at once to the bone; and remove the integuments, including the pericranium. Little ramifications, and ſometimes conſiderable branches of arteries will play. However, without any regard to this, proceed to abſorb by ſoft lint, the blood on the bone, whilſt an aſſiſtant is directed with his fingers, to preſs the integuments at the edges of the wound, and exactly over theſe playing fountains. This will at once check the hemorrhage, and you may proceed directly to the operation, which the ouzings from the wound will greatly facilitate. Introduce through the perforation your elevator, and raiſe the depreſſed parts. Place light doſſils of

lint

lint over the dura-mater, and theſe round the edges of the wound, may be covered with flour ; lay the uſual apparatus over theſe, and leave the patient to his repoſe, without further evacuations ; except, that if his bowels be a little tight, ſome gentle evacuation may be neceſſary. In ſuch caſe, I generally direct ſmall doſes of nitre and jalap——for inſtance, about eight grains of the former to three of the latter, every three or four hours, with a couple of ſpoonfuls of the ſaline julep, with ſyr. de althea, till two or three ſtools are procured.

In this operation, I make no proviſion for the fractured parts, nor do I think it neceſſary to lay them bare. My objects are, to give the patient the moſt ſpeedy and efficacious relief, with the leaſt poſſible pain, and rejecting whatever would retard the cure. I will grant, and proofs will appear in the ſubſequent part of this work, that ſome parts of the fracture will not unite, and may become detached. No matter : the great work is now done ; Nature will point where theſe lie ; and a ſlight inciſion,

often

often the forceps alone will remove theſe, when completely or nearly detached. It is ſufficient, if there be room enough for the inſtruments to work: beyond this, is needleſs. The breadth of a line, from the periphery of the trephine, will anſwer this as effectually as two inches, and the cure will be conſiderably accelerated. Though I direct the circumference of the inciſion to be traced with a pen, yet I always depended on my eye. Twice I recollect, the inciſion was ſo confined, that the teeth of the trephine frequently rubbed againſt, and bruſhed the edges of the wound; and yet, not the ſmalleſt bad conſequence followed. On the contrary, theſe two caſes were expeditiouſly cured. I have in the above inſtance, confined my directions to depreſſions, without wound, becauſe, where there is one, the caſe becomes more ſimple.

I know it is not uſual to make the inciſion and perforate the bone immediately after, on account of the bleeding. Neceſſity at firſt made me adopt this practice; and experience ſatiſfied

fied me, that it was a ſafe adoption. Frequently called to poor people in the country, where there was too often abundance of wants of all kinds, but particularly of money, I endeavoured to make myſelf as uſeful, and as little expenſive as poſſible to all, eſpecially to thoſe that could pay a little. I was therefore under the neceſſity of doing every thing at once. However, though this is my general mode, I have no objection to gentlemens' ſplitting the operation into two acts; nor can any poſſible danger ariſe from the delay, except where ſymptoms of a depreſſed bone appear, and then no kind of interruption ſhould be ſuffered.

CHAPTER

CHAPTER XV.

Symptoms produced by depreſſed Fractures unrelieved in a reaſonable time, and which required the immediate uſe of the Trephine —illuſtrated by ſome very remarkable caſes. —Univocal ſigns of a Fracture of the inner table of the Cranium—Inſtance of a man, who died with an extended fracture unrelieved, and the concomitant Symptoms.

IT has been already proved, that there is no immediate exiſting ſymptom, by which a fractured ſkull may be known, and that our information muſt be derived from the touch, the probe, and the nature of the injury; but it would be hard to ſuppoſe, that a regular uniform preſſure on the membranes of the brain ſhould long continue, without ſome particular ſymptoms.

A frac-

A fracture, with depreſſion, is generally followed with marked ſymptoms; in ſome, theſe appear ſooner, in others, later, but in none, exactly the ſame. They are ſometimes, a darting pain from the ſore to the forehead and eyes; an incipient heavineſs, torpitude and weight in the head. The lighteſt noiſe diſturbs them. They grow lethargic, often convulſed, and if not ſpeedily relieved, the ſcene cloſes with death! When called in to a patient, with any, or all of theſe ſymptoms, eſpecially with an heavineſs of the head, and lethargic tendency, ſome days after a violent injury to the head, you may conclude them, the ſigns of a depreſſed bone, and you are carefully to examine the hurt, and proceed to diſengage the part.

As theſe ſymptoms form the exact criterion, between a ſimple fracture of the ſkull without, and a fracture with depreſſion; and that the former demands no operation, whereas, in the latter caſe, it can not be diſpenſed with, we ſhall try to elucidate the poſition by facts.

CASE

CASE L.

JOHN O'MARA, ſteward to the Revd. R. Maunſell, Chancellor of the Dioceſe, about ten years ago, received a ſevere blow of an hurl, or bat, on the middle of the left parietal, accompanied with a ſmall contuſed wound. It was dreſſed for ſome days, by ſome handy perſon in the neighbourhood; but the man growing heavy and drowſy, determined the Chancellor to ſend me to viſit him. I ſaw him the tenth day from the injury. His pulſe were tolerably regular: he was in his ſenſes, but had a viſible comatous tendency. I now inſpected the ſore carefully. On introducing the probe, I found the bone bare, and concluded from the ſymptoms, that there muſt be a depreſſed bone. The integuments were directly removed, and a conſiderable fracture appeared. I proceeded to the operation, raiſed up the injured part to its level, the ſymptoms died away, he got a good cure, and is at this day ſtout and hearty.

CASE

CASE LI.

WM. O'NEIL, ſportſman to the late Colonel Quin, heading a party to take a forcible poſſeſſion of lands, within four miles of this city, in Auguſt 1778, was attacked by the people in oppoſition and his party routed. He ſingly ſtood on his defence, and peremptorily refuſed to give up his arms, though frequently called on ſo to do. He retreated to a cabin, and ſwore he would kill the firſt man that followed him. He preſented his piece; it miſſed fire, and he was ſoon overpowered. Repeated blows could not bring him to the ground. He for ſome time covered his head with the right fore arm, 'till it was fractured, as was alſo the left, in ſucceeding to this melancholy office.—He received a very extended wound on the upper part of the left parietal, which laid the bone bare for above two inches, and a violent contuſion on the middle of that bone. The

fractures

fractures were ſet, the wound of the head dreſſed, and every precaution taken, to prevent fever and inflammation. He went on tolerably well for about twelve days, except, that the wound on the parietal never ſhewed a good aſpect. About this time, I ſenſibly perceived him to grow heavy and drowzy. I more narrowly inſpected the head. Though the bare bone became diſcolored, and that I expected ſome exfoliations would follow, yet I was well convinced that no fracture exiſted there. I interrogated him more cloſely. He told me, the leaſt noiſe diſturbed him; and he imagined ſound was conveyed, as well through the ſide of his head, as through his ears. Next morning, perceiving the drowſineſs ſenſibly encreaſe, I carefully examined the contuſion which hitherto had been little attended to, and only covered by a compreſs, wet in ſpirits. I thought I felt an obſcure fluctuation. At all events, the growing ſymptoms determined me to lay open this part. But what was my ſurprize, when I found the bone not only fractured, but beat into ſmall pieces at the

point

point of percuſſion! I trepanned on the ſpot, removed ſome looſe bits, and raiſed others to their level. Every thing after this went on very well, except the denuded bone at top, which threw off a good many exfoliations, and remained open for many days, after the fractured parts were healed. I attended the proſecution of the aſſailants, the ſpring aſſizes following, at Ennis, where this man appeared, as proſecutor; had married in the interim, and was as ſtout and hearty as man could be.

CASE LII.

MAY 13, 1785, I viſited Patrick Hayes, a farmer, near Bilboa, in the county of Limerick. The 30th of April, in a diſpute, he received a ſevere blow of a large holſter piſtol from a man on horſe-back, the lock of which made a profound depreſſion on the poſterior

and

and ſuperior part of the right parietal bone, and very near its junction with the occipital. It was attended with no wound, but a ſlight perforation, ſcarce ſufficient to admit the end of a probe. He continued abroad on his uſual buſineſs for ſome days,; but heavineſs, torpitude, and weight of the head, confined him to his houſe, and then to his bed. A Mr. Ryan, a young man who attended our Hoſpital, ſaw him in this ſituation ; and an expreſs was diſpatched to me, but I had then, and for ſome time before, been beyond Caſhel, in the county of Tipperary. He waited the following day my return, and then brought with him another gentleman. He declared, there was no fracture, and left the man to his fate ! The evening of the 12th, I returned to town, where I found a meſſenger waiting. I ſet off next morning, for the place was diſtant above 14 miles——I found the man with a ſlow, weak, but regular pulſe. He was quite ſtupid, and lethargic, and could not utter a word. Upon paſſing my probe through the ſmall opening, I found the bone rather craſhed

than broke, and was, for ſome ſeconds at a loſs how to conduct myſelf, on account of the ſituation of the ſick, and the nature of the injury. Should I proceed to the operation, and that he died, which ſeemed much more than probable, it might be inſinuated, that his former viſitor could be no more deceived as to the nature of his complaint than I; but that ſenſible of the inutility of any operation, he declined it. But ſatisfied, that no other reſource was left for life——and a wretched proſpect it was—I was determined to do what I thought my duty; better pleaſed to be cenſured by others, than to cenſure myſelf. I told the people, what was indeed but too viſible to themſelves—that the man had little or no chance for recovery; but however, unpromiſing as the caſe was, I was willing to do my utmoſt to relieve him, provided no cenſure would follow its want of ſucceſs. They conjured me to do whatever I thought proper, and expreſſed their ſatisfaction and confidence in me. Upon removing the ſcalp, the bone had been ſo far beat in, that I apprehended I

ſhould

ſhould find the membranes wounded to the brain broken into ſmall bits. I ſaw to a certainty, that if I could raiſe one or two of them, I could remove the whole, the injury being confined to this circumſcribed part—with my probe, forceps, and elevator, ſucceeding each other, I was fortunate enough to raiſe up and remove one piece ; this gave room for a ſecond, and ſo by degrees, and with ſome patience, I cleared the dura-mater of all this incumbrance, without recurring to the trephine ! It was greatly depreſſed, wounded in two or three places by the points of the bone, but no where quite through. Add to this, that it was much diſcolored, and had a blackiſh hue ! He opened his eyes immediately after this, was much lighter, and prayed God to bleſs me. With Mr. Ryan, who was preſent, I left directions in writing how to treat him. I ordered a cold infuſion of the bark, and valerian in powder, on water, to which was added two ounces of Huxham's tincture. He was to take for nouriſhment, ſeaſoned broths, ſagoe, or gruel, with ſome wine ; by no means to be

kept low, and the dura-mater was to be dreſſed with doſſils lightly imbibed, with balſ. traumat. By degrees, the dura-mater roſe to its level, aſſumed a better colour, and he got an extraordinary and expeditious cure, owing to the ſmall portion of fleſh laid bare !

CASE LIII.

VERY ſoon after, a child about three years and an half old, was brought to me from a remote part of the country. So long as twelve days before I ſaw him, he had his right parietal bone broke, and deeply depreſſed, by the kick of an horſe. Heavineſs, ſtupidity, and inſenſibility, with a large wound, determined the parents to ſeek my aſſiſtance. I made way for the trephine, juſt at the moſt depreſſed part of the bone, raiſed up the injured piece, and dreſſed lightly. The alarming

ing ſymptoms died away, and in four weeks after, he was brought home completely recovered.

It is worthy notice, that in almoſt all fractures with depreſſion, the injury to the bone, is more extended in the inner than the outer table; and I have often met with caſes, where, upon raiſing up the bone, ſmall pieces of it have been fairly detached, and preſſed on the dura-mater. As inſtances have been produced, where the inner table has been fractured, whilſt at the ſame time, the outer appeared ſound, it merits ſome attention. I own, I never met with an inſtance of it, but of its poſſibility, I have not the ſmalleſt doubt, for the above reaſons. Let us ſuppoſe a man to receive a ſevere blow, or ſome other violent injury on the head. No loſs of ſenſe or memory immediately ſupervenes, he goes on to all appearances tolerably well for ſome days. He is then attacked with an heavineſs, and pain in the head. He inſenſibly grows more oppreſſed, is inclined to dozing, and lethargic com-

plaints. Theſe form ſtrong ſuſpicion, that there is a fracture concealed, with a preſſure on the brain; and will juſtify the neceſſity and utility of the trephine. But without THESE SYMPTOMS, I ſhould oppoſe any operation, from an imaginary cauſe.

To throw every light I can, upon a ſubject ſo intereſting, I ſhall cloſe the chapter, with the caſe of a man, who died ten months after a complicated fractured ſkull, and which had not been relieved. Some of his ſymptoms continued thoſe of a depreſſed bone, others were anomalous, and he died of a decline; but I am perſuaded, the real and remote cauſe, was the neglected fracture.

CASE

CASE LIV.

JAMES GRIFFITH, a ſtout athletic man, about forty, in a riot on the 1ſt of October, 1787, had his ſkull fractured on the poſterior and ſuperior part of the right parietal bone, and joining the occiput. This had very little depreſſion; but he had another on the ſide of ſaid bone, and ſome diſtance from the firſt, with a conſiderable depreſſion. The aggreſſor ſent me to viſit this man, in order to know if the caſe was bailable, that he might return to his buſineſs. I ſent him word, it was not. This happened the 16th of ſaid month; but as all parties were poor, and conſidering that the death of this man would neceſſarily cauſe that of others, I called on him next day, and prevailed on him to go into the Hoſpital. The injury on the poſterior part of the bone, I hoped would require no operation; but

the

the other, I ſuppoſed undoubtedly would. I removed part of the covering from this laſt, and would have proceeded to the operation, but for the interference of a medical gentleman, a friend to the patient. Still the depreſſed bone remained bare, and I endeavoured by different other means, to looſen or remove it. But tho' my endeavours were unſucceſsful, I at times perceived a very offenſive fœtor from the fracture. I ſent repeatedly for this gentleman, to perſuade him to agree to the operation, but he was poſitive, that it would be unneceſſary; ſo conſidering, that if after this, I ſhould attempt it, and that it proved unſucceſsful, his death might be charged to the operation, not to the injury, I left him after me in the Hoſpital; and in the end of ſix weeks, he was diſcharged. I was ſome time after applied to for a certificate of his health, but I refuſed it, declaring my ſentiments, that his life was ſtill in imminent danger, notwithſtanding the diſtance of two months from the firſt injury! A certificate however was procured, and the parties entered bail. The depreſſed parts, it appeared,

peared, were never completely covered; however, he went abroad, but continued in a low declining way, and incapable of following his trade. Of theſe laſt facts, I remained ignorant till the 3d of Auguſt following, when I was informed, that prayers were offered up at Chapel, for an happy death to him.

Curious to know the end of this melancholy buſineſs, I enquired where he reſided, for he had removed from his former habitation. I viſited him, not knowing but the operation might ſtill afford relief; but I found him in a moſt languid way, and juſt exhauſted! I examined the head, and the depreſſion ſtill remained, and the bone uncovered! I enquired into his ſymptoms. He had from time to time, a darting pain from the very back of his head to the forehead, and to his eyes; and this complaint continued at times, from the third day of the accident, but he had no heavineſs, lethargic tendency, or convulſions. He died the next morning;

morning; and I was very anxious to open the ſkull, but it would not be permitted. His principal complaints, for the laſt ſix weeks, were a ſevere cough, night-ſweats, and a decline.

CHAPTER

CHAPTER XVI.

The general Practice of profuſe bleeding, and other evacuations in depreſſed fractures of the cranium examined and cenſured.—— Caſes to prove the utility of a different treatment.—A moſt remarkable inſtance of the management of the ſcalp, and its ſucceſs—A caſe to ſhew, that the general principles here laid down, may be ſometimes modified.

ALL Medical-writers, ancient as well as modern, who have treated of injuries of the head, have been unanimous and decided, that profuſe and repeated bleedings, were abſolutely neceſſary and indiſpenſable. In wounds of the pericranium, Mr. Pott warmly and ſtrenuouſly recommends bleeding, as the moſt rational means of preventing the formation of

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pus on the dura-mater or brain. In concuſſions of the brain, he deems it the unicum remedium ; and in fractured ſkulls, it is always held out as a moſt powerful reſource. Let us examine, by what authorities, founded on plain reaſon, and experimental obſervations, this practice is ſo ſtrongly and ſo conſtantly inculcated.

To give it proper weight, it muſt pre-ſuppoſe an high tendency to irritability, and inflammation, in the cerebrum and its coverings. But is this ſupported by facts ? it undoubtedly is not ! Every obſervation proves, that they have very little tendency to either— at leaſt, the moſt violent external injuries offered to them, eſtabliſh the fact. In the caſe of Shea, (Obſ. 17.) we have ſeen the two parietals, and the coronal bone beat almoſt to pieces ; in many places, the fractured parts beat through the membranes, and lodged deep in the ſubſtance of the brain ; theſe pieces extracted from time to time ; and the brain itſelf, diſcharged with great profuſion.—This melancholy

melancholy ſcene laſted 17 days, and yet was attended with very little fever, and no inflammation whatever. More proofs of this will appear in the laſt Chapter. To a certainty then, neither the brain, or its envelopes, are ſubject to inflammation or irritability, at leaſt, from external hurts; and here the general doctrine of the antiphlogiſtic method, receives a formidable attack. Again, in ſevere fractures with depreſſion, unrelieved, till the effects of the cauſe appear, we find the pulſe, though ſometimes quick, yet, generally ſmall and low, with ſcarce any tendency to inflammation.—Will this juſtify profuſe bleedings? Will a diſcoloured dura-mater, almoſt always attending theſe caſes, often black, juſtify profuſe evacuations? Surely, no! But they will indicate a contrary courſe: namely, generous diet, wine, and the bark. As to inſtances of extravaſation and commotion, I have already treated amply of them; and have endeavoured to demonſtrate, that profuſe evacuations will anſwer no better purpoſe in them, than in diſorder of the preſent deſcription. My decided

cided opinion, with reſpect to the treatment of ſevere fractures, I thought proper to introduce here. It is highly worth mature diſcuſſion; and until I receive proofs as ſtrong for the former practice, as theſe here adduced for the preſent, I ſhall not be prevailed on to give up my opinion.

By compound fractures, relieved in the firſt inſtance, I underſtand caſes, where the Surgeon is called in on the ſpot, in two or three days, or before the ſymptoms of depreſſion come in.

CASE

CASE LV.

THE Son of one Ryan, a farmer, near Broadford, aged about fourteen, had the left parietal bone miſerably fractured, by a kick or kicks of an horſe, in June, 1776. He was next morning viſited by an apothecary in the neighbourhood, and I ſaw him the morning after. He was cool and collected, had a contuſed wound, and the bone broke in two places. The bone was profoundly depreſſed in its ſuperior part, and beat in here under the ſound part. I directly made room for the inſtrument, which I applied to the edge of the fracture; ſoon removed the bone in its vortex, and gave room to the elevator: near two ounces of blood followed the elevation of the bone, but it had been ſo much ſunk in, that the moſt elevated part of the fracture gave way tranſverſely, and I conjectured the piece would come away. It did ſo, in the courſe of ſome days. I found

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the part beyond this depreſſion free, and as the boy was young, I ordered ſome blood from him on the following morning, if hot or reſtleſs in the night. I never viſited this formidable fracture but three times; the boy got ſpeedily well, and has enjoyed remarkable good health ſince.

CASE LVI.

NOVEMBER 4, 1782, I was requeſted by Mr. Alderman Widenham, to viſit Patrick M'Carthy, a farmer, at Corromore, within five miles of this City. The evening before, returning from market, in ſome diſpute, near the town, he received a moſt violent blow on the right ſide of the coronal, which produced an extended fracture with great depreſſion.—He was taken into an houſe, about two miles from town, and here I ſaw him. The wound

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was but ſlight, the pulſe ſlow and regular, and though ſenſible, yet he ſeemed inclined to ſtupor, on account of the remarkable depreſſion, and the extent of the fracture. I, on the ſpot, intended trepanning, but neither himſelf or his friends, would ſuffer any thing to be done, till he reached home. In vain I pointed out the neceſſity of ſome ſpeedy relief, and the danger to be apprehended from the delay. I returned to town, concluding the next account I ſhould hear, would be that of his death. Early next morning, Alderman Widenham called on me, and we proceeded to the man's houſe. I found him ſtill more heavy and depreſſed than the preceding day; and on removing as much of the ſcalp, as gave liberty to the inſtrument to work, I proceeded directly to the operation. On raiſing up the part depreſſed, the weight and heavineſs ſoon quitted his head. The bone had been broke in five pieces, moſt of which I conjectured would come away. It had extended to the edge of the parietal, and down the temple at that ſide; for, beſide the blows, I was inform-

ed, that the horſe took fright, he fell off, and his feet ſticking in the ſtirrup, he was dragged ſome diſtance, with the head daſhing againſt the ground. The fracture on the temple, was the furtheſt removed from the perforation.—The bone was broke into two diſtinct pieces; the largeſt above an inch ſquare, but the fleſh over them, perfectly ſound and uninjured. As I found, that they in no manner preſſed on the brain, though eaſily removable, I reſolved to let them remain there for ſome time, to ſee how far Nature would exert herſelf, to bring about a re-union. I viſited this man every day, for a fortnight after, ſo can ſpeak with more certainty, as to the caſe. Some pieces near the perforation, came away from time to time, without much pain or trouble, and the two inferior pieces ſhewed no tendency to coaleſce. On the contrary, an encreaſing fœtor ſhewed them to be clearly extraneous; and this becoming more offenſive, determined me, at all events, to remove them. To cut away the integuments over them, would leave a very large quantity of the dura-mater bare, and add to

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the danger of life: at beſt, it would conſiderably retard the cure. Should I attempt to extract them, without removing the fleſh, ſinuſes might probably form, and I then ſhould be obliged to do at laſt, what ought to have been done at firſt. It was, however, the mildeſt mode, and I determined to adopt it. I paſſed a round ſharp-pointed ſcalpel, between the bones and the pericranium, which I eaſily ſeparated from each other, without the ſmalleſt interference with the ſcalp, and with a forceps extracted the two pieces. The cavity, I filled up lightly with ſoft lint, ſecured by threads.—At every ſucceeding dreſſing, I leſſened the quantity; and the ſixth day, from the removal of the bones, I put no dreſſing whatever, between the dura-mater and ſcalp, but placed ſome ſoft lint outſide, covered with adheſive plaiſter to keep it ſteady, and a light bandage. In three days, there was a perfect union of the parts; and this man, though almoſt the entire coronal of the right ſide was fractured, and a good deal of it removed, yet got as complete and as ſpeedy a cure, as ever I remember!

This caſe, and the mode of bringing about the union of the parts, by a bold attempt, and I think unexampled in the Hiſtory of Surgery, merits the ſerious attention of every good and humane practitioner.

CASE LVII.

WILLIAM CONNELL, Cooper, aged about 27, a ſtout, ſtrong man, being in company with others, on the night of the 19th of March, 1788, at a public-houſe, a quarrel aroſe between two of them, and Connell ſeeing one of them infinitely ſtronger than the other, ruſhed between, diſengaged the man, and pinioned the other againſt the wall, till his antagoniſt would make his eſcape. Inſtead of this, he ſeized on a large kitchen tongs, and levelled a terrible blow at his adverſary; but falling ſhort of him, Connell received its whole force

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on the middle of the left parietal bone. It bled freely, and was dreſſed with lint and brandy, covered by ſome plaiſter. On the 23d, I was called in. I found a wound of about two inches long, with pale uninflamed lips, and a conſiderable fracture, with great depreſſion. He was compoſed, and very collected, his pulſe ſlow, but a very marked intermiſſion, at every 20 or 25 ſtrokes. The operation, however, was the only chance he had for life; and on the ſpot, I removed as much of the ſcalp to the edge of the depreſſion, as would admit the crown of the trephine. It bled very little, and there ſeemed to be a kind of a *vis inertiæ* in the parts, that boded no good. I told the people, at all events, that I would trepan him next morning, if in any tolerable condition. I did ſo, raiſed the depreſſed parts, and found the fracture more complicated and extended, than I at firſt thought. I directed for him the ſaline julep, with tincture of bark, and a ſmall quantity of thebaic tincture. Still the intermiſſion in the pulſe continued, with great lowneſs and dejec-

tion of ſpirits. I directed gruel, with wine, for his diet. The 25th, he was more compoſed, the laudanum acting the part I propoſed, not as an opiate, but a ſedative. On opening the ſore, I removed two bits of bone (one pretty conſiderable) that lay under the depreſſed parts, totally detached. I covered the dreſſings with a compreſs, wet in ſpirits, and directed at times, draughts of light wine-whey, with a continuance of his julep, as the lowneſs and intermiſſion ſtill continued. The 26th, the dura-mater was a good deal diſcolored, and the next morning quite black.—Though all theſe ſymptoms were the moſt unpromiſing, yet I had in an hundred inſtances, ſeen the dura-mater diſcolored, and afterwards reſume its natural colour, without any alarming appearance; but then, indeed, in all them caſes, there was no marked intermiſſion in the pulſe, as in the preſent. The patient had a very good character. By his trade and œconomy he ſupported his mother and two ſiſters, and I felt myſelf the more intereſted in his recovery. I now directed the bark to be given in ſubſtance,

ſtance, laid doſſils, ſqueezed out of the balſ. traumat. to the membranes, and ordered a more enlarged diet. When I mentioned ſtrong and ſeaſoned broths, the people ſeemed frightened; but more ſo, when I told them, that if once, or twice in the day, he found himſelf low, and preferred half a pint of porter to wine-whey, he might ſafely take it. He however, preferred the wine whey, as, I ſuppoſe, having a more medical appearance. In ſome days after, a very large portion of the bone came away. I uſed not the ſmalleſt violence to extract it. I ſaw Nature was doing her own buſineſs; and when removed, not the ſmalleſt drop of blood followed. Though the pulſe were much mended, yet he complained at times of head-ach, and pain between the eyes. The dura-mater, and bone began to cover, with a looſe fungous fleſh. I ſprinkled lightly the parts with levigated precipitate, and dreſſed with dry lint only. A ſmall piece of bone now came away. From the 12th of April, I viſited him but twice a week; and in the courſe of ſix weeks from the injury, he got a complete cure.

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Though this man's ſymptoms from the beginning, carried a moſt formidable appearance; yet, I think it muſt be acknowledged, that the freedom I recommended, in point of diet, muſt have had a remarkable good effect. What the contraſt between this, and the French mode of treatment! But I would aſk any man of profeſſional abilities, united with native good ſenſe, if warm antiſeptic medicines, are neceſſary in certain diſorders; whether a correſponding nutritive diet, is not compatible? If not, there muſt be a great error in the whole proceeding! But I am perſuaded, that if the culinary buſineſs of the ſick, kept pace with a judicious ſelection of medicines, much greater benefits would ariſe to the public.

CASE

CASE LVIII.

—— RYAN, body-ſervant to Mr. Devonſhire, of the county of Cork, fell into idle company, the night of the 11th of July, at the races of Loughmore, near this City, and was very ſeverely treated. He was brought early next morning to a gentleman's houſe, about two miles from town, and I was ſoon after ſent for. He had received ſeveral wounds, one in particular, on the poſterior part of the parietal bone, and juſt connected with the occipital, on which alſo, there was a wound, and an undepreſſed fracture. The fractured part of the parietal was greatly depreſſed, and extended a conſiderable way, and the moſt depreſſed part was, in a manner, wedged in under the ſound bone, and juſt verging on the ſuture. Seeing the ſituation of the fracture, and dreading the conſequences of the operation, ſituated and circumſtanced as it was, I told

told his maſter, the neceſſity there was, for calling in more aſſiſtance. That the man ſhould be ſent to town, for the greater convenience, and I pitched on Mr. M'Knight, whoſe profeſſional abilities I had been ſo long acquainted with, to aſſiſt me on the occaſion.—He was ſent accordingly; and the next morning I removed the integuments, and ſet to work, adjoining the part ſo ſtrongly preſſed in. But though I got the elevator under this depreſſed part, and removed ſome detached bits of bone, yet I could not raiſe them to near their level. However, the dura-mater was greatly freed, and as a good deal of blood flowed from the aperture, we concluded, that in two or three days, they would be eaſier diſengaged, when a kind of ſuppuration was eſtabliſhed, otherwiſe, to proceed to a new operation. It turned out, as we predicted; and the third day, the entire piece came away. The dura-mater appeared much diſcolored, and verging to blackneſs. He took an infuſion of the bark, but his pulſe being fuller and quicker, than I have generally obſerved, he

was bled in two hours after, and again next morning; and after each bleeding, it appeared conſiderably buffed and inflamed—probably occaſioned by cold, as he had remained two or three hours expoſed to the open air, after the injury. Things went on very well for ſome days after; but he was then ſeized with a ſevere head-ach, pain in his back, and retention of urine. Bleeding was again recurred to, and it appeared ſtill buffed and inflamed! Stupes were applied to his belly; and he took the ſaline mixture, with tincture of ſenna, ſp. nitri dulc. ſyr. de althea, and forty drops of the tinct. thebaic. two table-ſpoonfuls every two hours, till relief was procured. In three days after, the retention of urine returned, and was effectually removed. However, the head-ach continued; and a large bliſter was applied between the ſhoulders. He got ſoon after well, and returned to Cork. Since then he called two or three times to my houſe, expreſſing with great feelingneſs his obligations.

The many and anomalous ſymptoms attending this caſe, and ſo different from what I had before met with, *merit great attention.* I have laid down as clear as I was able, the general mode, I would recommend in fractures. I have condemned the free uſe of bleeding, low diet, and other evacuations; but every practitioner, endowed with clear, plain intellects, will quickly perceive, that there will be ever particular exceptions to general rules. If I cenſured evacuations in the preceding caſes, it was, becauſe their neceſſity was not apparent. If I was free, and a little ſevere in their uſe, in the preſent inſtance, it was, becauſe their neceſſity might be ſeen with half an eye. The preſent, and the moſt alarming ſymptoms, ſhould ever occupy our firſt thoughts. The ſtate of inflammation in his blood, might have carried off this man in a ſhort time, if not ſoon remedied, notwithſtanding the apprehenſions from the conſequence of the

the fracture were removed. The ſucceeding retention of urine, might prove equally fatal, if not particularly attended to; and the remaining head-ach would be very troubleſome, but for the application of the bliſter.

CHAPTER

CHAPTER XVII.

Remarkable Caſes of Compound Fractures, with moſt alarming Symptoms, relieved by a ſingle perforation—A fracture of the coronal, with an inciſive wound of the membranes and brain—An extended fracture of the parietal—Another of the ſame attended with moſt unpromiſing ſymptoms—A perforation over the longitudinal ſinus—Two diſtinct fractures on the coronal bone—An extended fracture on the parietal, attended with an unprecedented hæmmorrhagy—— Another fractured aprietal.

THE Symptoms of a depreſſed bone, being effectually eſtabliſhed; the buſineſs of this Chapter is, to recite the ſucceſsful treatment of compound fractures unrelieved in the firſt inſtance, and to encourage Surgeons, not to be backward in their aſſiſtance, in caſes of this claſs, however deſperate and unpromiſing.

CASE

CASE LIX.

——— DEMPSEY, a journeyman whip-maker, in May, 1772, in a riot, with ſome ſoldiers, received ſome ſevere wounds on the head with a ſabre; one in particular, on the coronal bone, of about three inches long, which divided the bone, paſſed through the membranes, and wounded the ſubſtance of the brain—He had beſides a very extended fracture, with depreſſion, on the ſide of the left parietal. For ſome days, he went on quiet and eaſy, with theſe formidable injuries, being clear and collected, with ſcarce any fever; but the conſequences of depreſſion began to appear. On the night of the 9th day, he grew chill and heavy. Next morning the ſymptoms encreaſed, with weight and pain in the head. A lethargic tendency came on at night; and I was next day, requeſted in charity to viſit this man, when I obtained the above information.

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I directly ſcalped, to make room for the inſtrument, which was the largeſt crown I had. The depreſſed parts were raiſed. The ſymptoms ſoon died away; very many pieces of the bone, came away from time to time; the inciſive wound of the ſkull and membranes healed kindly, and he got a ſpeedy and laſting cure. This man, I am told, has carried on for many years paſt, buſineſs for himſelf in Dublin.

CASE

CASE LX.

PATRICK CUREEN, a Publican of Tulla, in the county of Clare, in the beginning of May, 1775, received violent and repeated blows of a loaden whip on the left parietal bone, which produced a very extended fracture. It was not accompanied with a wound; ſo, as he was compoſed and collected, little was made of it. However, in the courſe of ſome days, ſymptoms of a depreſſed bone began to appear. He grew dull, complained of weight in that ſide of the head, with pain and head-ach; he dozed a deal, and at times ſeemed ſtupid, ſlight ſpaſms followed; and on the 13th day I was called in. Tho' a ſlight fluctuation was ſenſible to the touch, yet the depreſſion of the bone could be ſeen with a ſingle glance of the eye, and a very conſiderable and extended one it was! I inſtantly removed as much of the integuments, as made room for the inſtrument. The

bleeding was uncommonly ſmart, but by the ſteady preſſure of the fingers of an aſſiſtant, it was ſo far maſtered, that I was able to proceed to the operation, and raiſed up the depreſſed parts. Some looſe detached pieces of the bone I removed, and on the ſpot, he was ſenſibly relieved. The fracture extended very far, comprehending in it ſeveral pieces; however, as the preſſure was removed, I was ſatisfied that the object of the operation was effectually anſwered; and that ſuch pieces as were not diſpoſed to reunite, would be eaſily removed. I left directions with an handy man in the town to dreſs him. I never ſaw him after, till the following aſſizes of Ennis, where buſineſs called me. This man appeared to proſecute, with ample teſtimonies of the outrage—namely, a thin and extended cicatrice on the head; and a large parcel of pieces of bone papered in his pocket. My appearance was of ſome uſe to him, as the aggreſſors imagined I was to be called on in Court, ſo they expeditiouſly compounded the affair with him.

CASE LXI.

IN May, 1779, Patrick Kelly, a cabinet-maker, reſiding near Tulla, in a diſpute, received repeated blows of the rail of a car on the left parietal, which produced a very extended fracture, with a ſlight wound of the integuments. He was for ſome days attended by a young man in the neighbourhood, who had been Surgeon's mate to a marching regiment. In the courſe of about ten days, the uſual ſymptoms of a depreſſed bone appeared; and when I ſaw him, which was the 14th day from the injury, he was comatous, greatly oppreſſed, and ſo languid, that I apprehended every attempt to relieve him would be uſeleſs. My firſt ideas were to return to town directly, without doing any thing. However, reflecting on the great reſources of nature, that I had received the people's money, and that it was my indiſpenſable duty, after making an honeſt prognoſtic, to leave nothing un-

done, to afford a chance for life, I fixed my reſolution. I told his friends what I really thought; but as I was on the ſpot, I was ready and willing to do what lay in my power for him; that there ſeemed to be a moral certainty, that every effort would prove uſeleſs, and that I would ſubject myſelf to all theſe hazards, provided they threw no cenſures on me, on the event of want of ſucceſs. They ſeemed ſtruck with my declaration; applauded my feelings, and begged I would go about the buſineſs. I did ſo, raiſed the depreſſed parts, and was ſatisfied from the nature of the injury, the extenſiveneſs of the fracture, and the many pieces in which the bone was broke, that if he recovered, it would be by a loſs of a great part of the parietal. Immediately after the operation, the man opened his eyes, knew me, and ſaid he had great confidence in a recovery, ſince I had come to his relief. I left directions, as to his diet; to be by no means kept low, to take ſagoe or gruel, with wine, and ſeaſoned broth. I ordered an infuſion of the bark, with valerian; and as the

dura-

dura-mater was browniſh, to imbibe the doſſils lightly, in the balſ. traumat. Still I had little or no hopes of him. In eight days after, I was again called to him. He was much mended in his conſtitution, the dura-mater was better coloured, but I found a conſiderable piece of the bone looſe, which I eaſily removed with my forceps. Next day he perceived a weakneſs in the neck, and in the arm of the oppoſite ſide; and by night, it attacked that entire extremity. In a few days after, two more pieces were removed, and again a third. He laboured under this partial paralyſis for fifteen days, and after this gradually recovered. He called upon me the latter end of July, previous to the aſſizes of Ennis, to carry with him a certificate of the facts, with the many bones he loſt, to produce in court. The cicatrice was every where firm; and his recovery was as extraordinary, as it was unexpected!

CASE LXII.

JOHN CANNY, aged about twenty, reſiding at Fiacal, in the county of Clare, received the 23d of January, 1784, a violent blow on the ſide of the head. The ſkin was not broke, ſo it was not attended to; but, however, in ſome days, he grew dull and heavy, quitted his work, and took to his bed. In fine, he became ſtupid and lethargic. His landlord, Mr. M'Namara, of Ail, hearing his ſituation, ſent off an expreſs to me. I ſaw him on the ſixth of February. I found partly on the coronal, and partly on the parietal of the left ſide, a tumor, a little elevated, containing ſome fluid. I opened it, through its extent, and found, on clearing the parts, bare bones fractured, the ſuture or union of both, being the center of the fracture and depreſſion. I applied the largeſt crown I had on the ſuture, at the edge of the fracture. I found no more difficulty

difficulty or obſtruction to the operation here, than I would on any other part of the head, nor any adheſion of the bone to the ſinus. I had a pretty conſiderable collection of blood under the fracture, which I carefully abſorbed, and removed ſome detached bits of bone, and raiſed others to their level. By this bold, and indeed, ſafe operation, I ſaved this man from others, which muſt have been performed on both ſides the ſutures. I heard no more of him, till the beginning of the following April, when he brought me a letter from Mr. M'Namara, requeſting an atteſted certificate of his caſe, to lay before the Judges, at the Ennis Aſſizes.

CASE

CASE LXIII.

NOVEMBER 1, 1784, Mr. O'Brien, of Crateloe, requeſted I would viſit Dennis Molloney, aged about twenty, who the 20th of the preceding month, had received a wound on the left ſide of the coronal bone, about two inches above the orbit. It bled freely at the time, and our people paying little attention to conſiderable injuries, he was abroad next day, with his head bound up, and continued to work for ſome days, but he had not his uſual vigour and ſpirits. His heavineſs encreaſed, as well as weight in his head. The 28th, he quitted his work; and the next day took to his bed. I found him very heavy, with a ſtrong tendency to doze, but yet ſenſible. The pulſe, as is generally the caſe, nearly regular and even. The bone was laid bare, and greatly depreſſed. There was alſo, to all appearance, a ſlight contuſion a little higher up, which was

ſcarce

ſcarce noticed. I directly removed the integuments to the edge of the depreſſion, but not having my trepanning inſtruments, I deſired he might be ſent to town that night, or next morning, the diſtance being about four miles. However he did not make his appearance 'till the third day, and then I trepanned him, Drs. Unthank and Shearer being preſent, and raiſed the depreſſed parts. The dura-mater was diſcoloured, but things, as uſual, were coming about. In ſome days, I noticed the pericranium not to be adhering to the bone, at ſome diſtance above the fracture, my probe having a free paſſage between. I opened the parts, and found where the ſeemingly ſlight contuſion was, a regular fracture, with a ſlight depreſſion, yet as he had no new ſymptoms, and the opening already made, being a kind of drain to it, I put off any other operation from day to day, knowing how great the reſources of nature are, and that I had always the power to recur to it, when unavoidable. He took a cold infuſion of the bark, with ſweet elixir of vitriol. Funguſſes aroſe from day to

day

day over this part, and were repreſſed by the lunar cauſtic; ſigns of coaleſcence in ſome time appeared, and he went home, completely recovered in ſix weeks, without any further operation.

CASE LXIV.

WILLIAM LAHY, a tall thin man, aged about forty, received a violent blow of the handle of a large kitchen tongs, on the upper and middle part of the right parietal bone.—The conſequence was an extended fracture, with conſiderable depreſſion, and a ſlight wound. This happened near Nenagh, and about twenty miles from this city, on the 2d. of June, 1788. He remained in the country till the 14th, when he came to town, recommended to me. He preſented himſelf with more *ſang-froid* and ſtoicity, than can be well conceived.

conceived. He had rode to town that morning, was quite clear and collected, and ſeemed not to have the ſmalleſt ſymptom of a depreſſed bone. The fracture ſloped from above downwards, and the lower extremity was beat under the ſound bone. It alſo ſtretched from both ſides of this depreſſion. They took a lodging near me, and conſidering the man heated by his ride, I judged it prudent, to attempt no operation 'till next morning. Accordingly in the preſence of a couple of gentlemen, I removed the fleſh, to make way for the inſtrument. A ſmart hæmorrhagy took place, which was not eaſily maſtered. The operation ſucceeded, and on removing the bone engaged in the trephine, an artery played from the ſide of the opening like a fountain! This was a phænomenon I had never met before, but being always cool and collected, and more ſo, on any ſudden or alarming danger, I directly mentioned to the gentlemen, a couple of inſtances I had met in diſſection, where a conſiderable branch of an artery, which moſtly forms a groove for itſelf in the internal part of

the

the parietal bone, had, inſtead of this, paſſed between the two tables of that bone; and, of courſe, in a ſimilar caſe, in trepanning, this artery muſt be divided. It was preciſely here the caſe; ſo without the leaſt confuſion or embaraſſment, I applied ſoft lint over this *jet du ſang*, which by gentle preſſure was ſoon reſtrained, and with the elevator, raiſed the parts depreſſed. In the afternoon, he was ſeized ſuddenly with violent tremors, ſucceeded by burning heat; and when I ſaw him, which was ſoon after, his pulſe were rapid and irregular. I however ſaw the forces ſtrong, and judging that it would terminate in a diaphoreſis, I directed draughts of light wine whey, with the ſaline mixture, in which were a few drops of laudanum. A profuſe ſweat accordingly ſupervened, and he was lighter and better in the morning. However, a ſtrong ſmell from the ſore, made me open it directly. There was a pretty conſiderable diſcharge of grumous blood, mixed with pus; and the dura-mater and the wound looked badly, particularly the former, which

was

was quite black. Doſſils preſſed out of balſ. traumat. were applied to the membrane, and the uſual topics to the reſt of the ſore. I had often before ſeen the dura-mater much diſcoloured, after a depreſſed fracture remaining long unrelieved, and gradually re-aſſume its native appearance, without any alarming ſymptoms; nor ſhould I have been much alarmed at the preſent aſpect, but for the tremors preceding it, which I feared might terminate in abſceſs. He took a cold infuſion of the bark, and was by no means kept low in point of diet; being allowed ſagoe and gruel, with wine, broth ſeaſoned, and at times wine-whey. From day to day, for ſeventeen days—for ſo long he remained under my care—ſcales and ſplints of bone were removed; the dura-mater aſſumed its natural appearance, the ſore gradually contracted, and the ſurface of it ſcarce exceeded the ſize of a ſhilling!

The facility, with which the depreſſed parts were raiſed, and indeed, in part removed; the

ſmall

ſmall quantity of ſcalp that was deſtroyed, and the expedition of the cure, ſufficiently point the advantages of making your perforation on the edge of the moſt depreſſed part of the bone, and of being provident in your diſpoſal of the integuments.

CASE LXV.

I was requeſted by Dr. Keating to viſit a lad, beyond Newport, in the county of Tipperary, whoſe ſkull it was ſuſpected had been fractured; but previous buſineſs then prevented me, ſo Mr. Fitzgerald, a young Surgeon of this city, viſited him. In eight days, he called upon me, for my advice, and aſſiſtance in this caſe—I found a conſiderable fracture, with a very extended depreſſion on the middle of the left parietal. A perforation of the bone had been very properly made, but it failed

failed of its effect. In ſhort, the boy laboured under all the ſymptoms of a depreſſed bone, and theſe encreaſing. Speedy relief was much wanting. I found the ſcalp formed no adheſion with the bone, the whole extent of the depreſſion; and that it was neceſſary to remove a good deal of this, to come at the ſource of the complaint, for the elevator had no effect whatever. It appeared, that the extremity of the depreſſion was wedged under the inferior parts of the parietal, and the caſe was rendered ſtill more complex, by a freſh fracture at the edge of this laſt; which covered the other. There was a conſiderable fiſſure here. I paſſed through it the handle of a ſpatula, and this, in a little time, gave room to the elevator. This piece was entirely removed. There was nothing now to impede the elevation of the other bone. It was accordingly raiſed, and a large triangular piece removed. Much blood lay underneath, and when the dura-mater was cleared, I found on it two ſplints, and a piece of the bone, an inch long, and four lines broad, totally ſeparated

from

from the fracture, and preſſing hard on the membranes! the dura-mater was diſcoloured; but on the inſtant, he grew ſenſibly lighter and better. I ſaw him no more; but Mr. Fitzgerald, who paid him ſome more viſits, gave me an account of the progreſs of the cure; but he was a long time before the bone was completely covered, on account of the great loſs of ſubſtance.

CHAPTER

CHAPTER XVIII.

Succeſsful efforts of Nature, in neglected fractures—A fracture of the parietal, where the injured parts were melted down.—A fracture of the coronal bone, relieved, ten weeks after the accident.—A fracture of the coronal, illuſtrating the firſt caſe.—A fracture of both parietals, at their junction, with a moſt remarkable depreſſion.—A fracture of the coronal relieved, ſeven months after the accident.

THE Succeſs attending the above recited caſes, ſhews to demonſtration, how much may be hoped and expected from Nature in the moſt deplorable ſituation, if happily and properly aſſiſted by art, in any reaſonable time! We ſhall now ſhew, what ſhe is ſometimes enabled to do, with little or no aſſiſtance from Art.

CASE LXVI.

JOHN HALLORAN, aged about nineteen, was admitted into the Hoſpital May 10, 1765. He had an abſceſs, about the ſize of a ſmall apple, on the ſuperior part of the right parietal bone, which I opened next morning. A large quantity of well-conditioned pus diſcharged, but it having been of a long ſtanding, and the ſcalp over it ill-coloured, and quite hollow, I removed the diſeaſed parts, which was done with little pain, the fleſh being ſoft, flabby, and in a manner inſenſible. But what was my ſurprize upon clearing the parts, when I found a circular opening in the bone, of the ſize of half-a-crown! the dura-mater was covered with matter, and very foul. After abſorbing this pus, I found an ill-conditioned fungus riſe, which almoſt filled the cavity made by the bone. This, on the ſpot, I ſprinkled freely with pulvis angelicus.—It is compoſed

poſed of equal parts of roch allum and precipitate, rubbed into fine powder. I continued the ſame application with lint and plaiſter, from day to day, 'till this fungus was reduced; and the wound healed as kindly, as if he had been really trepanned! The acccount he gave me of the cauſe of this uncommon phænomenon, was as follows: About 12 months before, his maſter gave him a violent blow of a cudgel, preciſely on the ſpot deſcribed; and he fell ſenſeleſs on the ground, but ſoon recovered, after puking a little. No wound, or ſign of contuſion followed, but a ſlight ſwelling remained. About ten days after he complained of a heavineſs and pain in the head, darting to his eyes. He at times grew drowzy and ſtupid. He quitted his ſervice and went home. He after this was bled twice in the arm, and once in the foot, but at different periods. He was bliſtered between the ſhoulders, and took ſome opening phyſic. At length the tumor aroſe, already deſcribed, and even this afforded him little eaſe, till opened, and the fungous excreſcence deſtroyed. In

about nine months after, I attended a young woman in Killaloe, for a ſimilar complaint, and proceeding from a ſimilar cauſe !

CASE LXVII.

PETER BULKELEY, about twenty-three years old, was thrown from his horſe. His forehead ſtruck againſt a projecting ſtone, which cauſed a conſiderable contuſion, but without any wound. It was covered with a compreſs, wet in ſpirits, and the man continued his uſual employ, which was that of horſe-rider. In the courſe of ten or twelve days, he grew heavy, his ſtomach ſickened, and he tried to relieve himſelf by a puke. He ſtill laboured in his occupation, but without health or ſpirits. He was twice bled, and a large bliſter applied to his back, but with little relief or ſatisfaction. In the courſe of about

five

five weeks from the injury, a ſwelling and redneſs appeared on the original hurt. Poultices were applied, and matter formed, which burſt forth from a ſmall opening. The weight and pain in the head ſtill continued; and he came recommended to the Hoſpital, Feb. 10. 1777, being the diſtance of ten weeks from the fall. On introducing the probe into the orifice, I found a conſiderable hollowneſs, which I laid open. A natural trepan had been formed, the piece was detached, and I on the ſpot removed it! Part of the ſound bone was without the pericranium, and remained a long time open, 'till three exfoliations took place.—Things then began to aſſume a good appearance, and he was diſcharged completely cured.

CASE LXVIII.

ANASTATIA BRANDON, living in my neighbourhood, in November, 1781, received a blow on the right ſide of the coronal bone, with a ſlight wound. In ſome days, a dizzineſs, with weight and pain in the head, came on, and gradually encreaſed. She applied to my apprentice, Mr. Fitzmaurice, who mentioned the matter to me, and told me the bone was bare. I went to viſit the woman, enlarged the opening, and found the bone, of about the circumference of half-a-crown, diſcoloured and browniſh, but to me it did not appear as if fractured. The diſeaſed bone was, from day to day, ſprinkled with pulv. angelic. the head-ach gradually leſſened, but the diſcoloration of the bone encreaſed. In the courſe of ten days, it became quite melted down, and like fine mortar. The circumjacent parts cleared up; ſome fungus from the dura-mater

was

was depreſſed by eſcharotics ; ſhe ſoon got perfectly well, and at this day, enjoys remarkably good health ! The ſpeedy diſſolution of the injured part in this caſe, will very well account for no traces of the bone being found in the head of Halloran.

CASE LXIX.

JAMES CORMORCAN, a joiner, whom I remember ſince I was a ſmall boy, was about twenty-three years ago employed in repairing the houſe of — Barnſtic, near Ennis. A large oak beam ſuddenly gave way, and fell on his head, by which the two parietal bones at top, forming by their union, the ſagital-ſuture were fractured, and moſt profoundly beat in, with a conſiderable wound. He had no regular attendance, nor can I find, that he was ever viſited by any perſon of informa-

tion, but that the wound healed in ſome time, without the loſs of any part of the bones whatever; and that he remained for two years confined to his bed, quite paralytic at both ſides, quite deſtitute of the powers of motion, and even articulating with great difficulty! He after this period, by ſlow and gradual time, recovered the uſe of the left ſide, thigh, leg, and arm, but the right extremity is ſtill paralytic, he ſtill ſpeaks with heſitation and difficulty; and to me it ſeems, as if reaſon was not perfectly reſtored. I have examined this poor man's head repeatedly; the depreſſion is ſtill moſt ſenſibly felt and ſeen; and from what remains, the enormous weight of the beam, and height it fell from, we muſt ſuppoſe the reſources of Nature in this caſe, beyond all reaſonable credibility.

CASE LXX.

PATRICK LYNCH, in June, 1779, received a ſevere blow of an hurl on the ſuperior and middle part of the coronal bone. On the inſtant he was ſtunned, and for half an hour after, deprived of his ſenſes; but on puking two or three times, recovered. No wound followed, and little notice was taken of it. In ſome time, he complained of pain, heavineſs, and head-ach; and except once or twice bled; and as often puked, at different diſtances, he took no other remedies. He weathered it out as well as he could, to the Chriſtmas following, when he went to ſome friends in the county of Tipperary, who ſoon found out an empyric, that promiſed wonders. Where the blow had been received, a tumor had been for ſome time forming; and judging from its appearance, and the almoſt unremitting pain in the head, that it muſt be

cancerous,

cancerous, he boldly covered it with one of thoſe corroſive plaiſters, ſo well known, and by ſome impoſed on, as a great ſecret. There it remained for three weeks, and ſo active an application, could not be left on ſo long for nothing! With the plaiſter came off the integuments, and diſcovered a bare bone, with ſome fiſſures, and matter burſting through them from the dura-mater! the matter encreaſed, pieces of bone became detached, and after the loſs of ſeveral of them, he got well, aſſiſted by the poor people about him. This man, I have ſeen, and examined ſeveral times ſince.

CASE LXXI.

DENIS HIHIR, of Palace, in this county, (Limerick,) aged fifty-nine, in ſome diſpute on the 20th of April laſt, 1792, received a violent blow on the head, and this was ſucceeded by

by that of a ſtone of enormous bulk, on the ſuperior and external part of the right parietal bone, which cauſed a profound and extended fracture. On the inſtant, he was ſeized with ſtrong convulſions, which continued above two hours. On his recovery from them, he remained in a ſtate of inſenſibility for two days, with ſtrong inclinations to puke. A perſon was then ſent for, who, after examining, pronounced him in no danger. His intellects became gradually reſtored, but he laboured under intenſe pain in his head, and when ever he took any food, that required maſtication, he conſtantly found a grating and crackling of the bone, in the place of percuſſion. He continued, with this ſevere pain in his head, and a bare diſcoloured bone to the 27th of May, when he preſented himſelf at the Hoſpital, and was immediately admitted. On examining with a probe, I found the bone bare for a conſiderable length, and that a ſeparation had been forming juſt at the edge of the ſagital ſuture. The morning of the 28th, I divided the ſcalp, to the ſpot where I felt the ſeparation, and

there

there introduced the elevator, and with little trouble removed a piece of the bone, much larger than a crown-piece, and nearly circular. On the inner table, the fracture extended every way, above half an inch more than on the outward; and this is almoſt generally the caſe in fractures of the head. In half an hour all painful ſenſations vaniſhed, and the ſore was dreſſed with dry lint and plaiſter. With reſpect to the piece removed, I have to remark, that about its center, it was black, and a little depreſſed, but not fractured. The inner table under this, was in a manner melted down, but firm at its edges. This man is recovering very faſt; but I muſt diſcriminate between the ſymptoms. The convulſions and inſenſibility, are by no means to be charged to the fracture; they were the effects of a diſtinct complaint, a concuſſion, accompanying this fracture; and this is a circumſtance that ſhould always be attended to, in injuries of the head.

CHAPTER

CHAPTER XIX.

Fatal conſequences of delaying relief in fractures with depreſſion.—A fracture of the coronal bone, unſucceſsfully treated.—A ſecond, attended with convulſions, and equally ſo.—Caſe of a fractured parietal, ending fatally.—A fractured parietal, attended with convulſions and paralyſis.——An extended fracture of the coronal bone.

THE Accounts given in the preceding Chapters, of many uncommon and unexpected recoveries, by the happy and timely interpoſition of Art, in aid to Nature; and the laſt chapter in particular, ſhewing in a very aſtoniſhing manner indeed, what noble efforts and ſtruggles ſhe makes, even unaſſiſted by Art, are capable of exciting many uſeful and moral reflections, to a good, and a contemplative diſpoſition!

ſition! But leſt they ſhould give too much confidence to young Surgeons; and that much precious time might be trifled with, I here ſubjoin a few caſes, where Art in vain exerted her powers. It is by the ſhaded part of our practice, that inſtruction is often beſt conveyed; and I deſire it may be recollected; that whilſt I ſuggeſted every incentive, to exert our abilities to relieve Nature, however unpromiſing the appearance, yet I have conſtantly recommended, in every depreſſed fracture, when called upon in any reaſonable time, never to loſe a moment, nor wait for the dangerous ſymptoms of a depreſſed bone's appearing.—The following inſtances, are melancholy proofs of this truth.

CASE

CASE LXXII.

ANDREW MOLONEY, a farmer, near Bick-Hill, in the county of Clare, and five miles diſtant from town, received a terrible ſtroke of a large ſtone, hurled at his head, the 30th of May, 1779, and which made its impreſſion on the upper and right ſide of the coronal bone. How he was treated from the beginning, I cannot ſay, but ſuppoſe he had been, at leaſt, bled and phyſicked. June the 17th, I was called upon to viſit the man. I found him labouring under a low quick pulſe, ſeemingly ſtupid, and ſpeaking with great labour and difficulty. About ten days from the injury, he grew heavy, and complained of great pain and weight in his head, and this gradually encreaſed, 'till it came to the pitch deſcribed. There was no wound, but a ſmall opening, barely ſufficient to admit the point of a probe, and this ſhews the very little attention

tion paid to it. On paſſing in the probe, I ſoon perceived the bone bare, with a conſiderble fracture and depreſſion. I directly made room for the inſtrument, trepanned, raiſed, and partly removed a conſiderable portion of the beaten-in-bone. On the ſpot, he ſeemed much relieved. The dura-mater was ill-coloured; ſo I dreſſed with lint, ſqueezed out of ſpirits. I directed a cold infuſion of the bark, to be taken every four hours; and to guard againſt convulſive attacks, which I apprehended, I ordered alſo the ſaline mixture, with tinctures of caſtor and valerian, and a ſmall quantity of laudanum. I ſaw him two days after; and he then ſeemed much better; but in the evening of the next day, he was ſeized with ſpaſms, and ſlight convulſions, and died next morning.

CASE

CASE LXXIII.

JOHN QUANE, living about four miles from town, on the road to Newport, received a fracture, with conſiderable depreſſion of the coronal bone, by the projection of a large ſtone. This happened the 30th of June, 1783. The 14th of July, I was called upon by the Revd. Mr. Franklin to viſit this man. Beſides the heavineſs and head-ach, generally ſubſequent to depreſſed bones, he had been at times attacked, for three days before I ſaw him, with convulſions; had been at times delirious, and when I ſaw him, had a rapid, but a low pulſe, for he had been, it ſeems, largely evacuated. The ſtate of the bone could not admit of the ſmalleſt doubt, but his other ſymptoms demanded very ſerious reflections. In the courſe of half an hour after my arrival, he had two convulſive attacks, but in the intervals, ſeemed much collected. I concluded he

would certainly die; but the fracture and depreſſion were ſo conſiderable, that I thought it would be criminal in me, not to propoſe this only chance for life. Dr. Irewin, who had viſited him for ſome days, and was then preſent, thought my propoſal humane and laudable, and his friends gladly conſented to the alternative.

I had been informed before I ſet out, of his convulſive attacks; ſo I had with me a ſmall bottle of *ſedative drops*,—e. g. tinctures of caſtor and of volat. val. of each 3 drachms, with a drachm of thebaic tincture. There was beſides brought out a bottle of penny-royal water. The apparatus being ready, I gave him a tea-ſpoonful of the drops, in a glaſs of penny-royal water, and then proceeded to buſineſs. But the reader may form ſome idea of the coolneſs and firmneſs I ſometimes poſſeſs, when I inform him, that three different times, in the courſe of the operation, I was obliged to deſiſt, ſo rapid were the returns of the fits! I gave him a ſecond doſe of the bottle,

tle, and that ſuſpended them ſo long, that I was enabled to finiſh the operation effectually. When the looſe parts were raiſed, he was more compoſed. I remained in his cabin two hours after the operation; and in this time he had but one fit. The dura-mater was blackiſh. I directed a cold infuſion of the bark; and the drops to be given twice a day, till the fits ceaſed. The dura-mater was dreſſed with doſſils, ſqueezed out of ſpirits; and all the compreſſes were moiſtened with the ſame. I directed for diet, ſeaſoned broth, gruel and ſagoe alternately, but with wine in the two laſt. In two days after, I ſaw him again. In the interval, the fits gradually leſſened, inſomuch, that he had but one fit for the laſt ſixteen hours. Still the dura-mater retained its duſky hue, and was now dreſſed with balſ. traumat. and the compreſſes moiſtened with ſpirits. In two days after, I ſaw him for the third time. The convulſions were ſtill leſs frequent; and for the laſt 24 hours quitted him. The dura-mater too, appeared much ſounder, and I began to entertain

ſome hopes of a recovery, but was ſent word, that he expired the evening of the next day. I wiſhed much to be informed of ſo unexpected a death, but his friends would ſuffer no inſpection to be made.

CASE LXXIV.

JOHN HEYNES, about eleven years old, whoſe parents are reſidents in this City, was brought to the Hoſpital the nineteenth of Auguſt, 1785, for advice only. Some days before, he fell down the ſtone ſtairs of a cellar, and a contuſion and ſlight ſcratch on the left parietal, were the only effects that appeared. He ſeemed tolerably well 'till the 18th, when he grew hot and heavy with a ſlight ſwelling in his neck. A ſlight fluctuation under the ſcratch, determined me to open it with a lancet, when near a ſpoonful of digeſted matter poured forth; and

and on introducing the probe, I felt the bone bare. I preſſed hard to enlarge the wound; but the mother would not ſuffer it. I directed a plentiful bleeding on the ſpot, and ſmall doſes of jalap and nitre to be given occaſionally, ſo as to open the body three or four times. Next morning, he was again brought up. The powders anſwered the ends propoſed, he paſſed a good night, and was exempt from head-ach, fever, or heavineſs. The ſwelling about the hurt, had entirely ſubſided; ſo that I could, with the greateſt certainty, determine the extent of the injury. With great difficulty, the mother conſented to have the probe introduced, and I found the fleſh ſeparated from the bone, to a conſiderable extent. I preſſed for a further enlargement of the wound in vain, though I at the ſame time aſſured her, that the bone was fractured underneath. I am told, ſhe brought him to another gentleman, who aſſured her, any further operation was unneceſſary. But, be this as it may, the 8th of September, I was requeſted to be at the Hoſpital at twelve o'clock, Mr. M'Knight,

who was attending Surgeon for the month, being then indiſpoſed. This boy was then produced, and a fracture with a very conſiderable depreſſion were apparent. I raiſed the leſed parts, removed ſome ſplints of bone; and with great difficulty they conſented, that the boy ſhould remain in the houſe 'till next morning. He was then removed, and died in two days after.

CASE

CASE LXXV.

FEBRUARY 27, 1788, I viſited Patrick Kelly, Stuart to Mr. Lyons of Croom. A large ſtone hurled at him on the 16th, ſtruck him on the ſuperior part of the right parietal bone; the conſequence of which was, a fracture, with conſiderable depreſſion. He had been up and abroad to the preceding Sunday; when he grew heavy, and complained much of his head. An handy man in the neighbourhood, who had been dreſſer at our Hoſpital, was ſent for. He grew worſe; and on Tueſday evening, had ſtrong convulſions, and theſe were the firſt alarms of danger. I was ſent for on Saturday, and on cloſe enquiry found, that on the preceding Sunday night, he became quite paralytic on the left ſide.—His pulſe had that ſlow beat, that generally accompanies mortal concuſſions, and he was uncommonly low. Upon hearing my opinion

of

of the caſe, the people conſented to the operation, and told me, that was the preciſe buſineſs I was ſent for. He appeared evidently relieved, by removing the preſſure from the brain, and this was followed by a good diſcharge of grumous blood, ſucceeded by above two ounces of pus. The dura-mater had a dark colour, and was dreſſed, as on ſuch occaſions. I ordered for him, a generous diet, wine whey, and an infuſion of the bark. I ſaw him four days after. He was ſtill uncommonly low, the dura-mater quite black; and no further diſcharge from within. The diet and medicines were continued, but he died the fourth day after.

CASE

CASE LXXVI.

IN the beginning of laſt Auguſt, I was called upon to viſit one M'Namara, in Broadford, and another of the name of Rourke, about a mile further on the ſame road. On returning from a neighbouring fair, on the preceding day, each received a ſevere fracture on the right ſide of the coronal bone. Engaged in other buſineſs, I could not attend thoſe calls at the time, ſo heard no more of them, 'till the Friday following—Sunday being the day I was firſt ſent for. The father of Rourke then came, to requeſt I would ſee his ſon, and this was followed by a call from the other man, who, I underſtood, was in a dying way. Of Rourke, I ſhall ſay nothing, being unconnected with the preſent buſineſs; but confine myſelf to the caſe of M'Namara. On examining this man's head, I found a wound of about an inch long, had been inflicted with the

the fracture, and this wound had been enlarged. On raiſing up the parts, I ſaw a moſt deformed and extended fracture, or indeed, more properly, fractures. From near the ſuperior part of the coronal on the right ſide, to the edge of the orbit, fractures could be traced! At the upper part, where the ſtone hit, the tranſverſe of the injured bone was above two inches; and was there met by a ſecond fracture, proceeding from the orbit. He grew ſtupid and heavy from the third day; and the young man who took charge of him, finding alarming ſymptoms coming on beyond his abilities to remove, told the people he would go look for ſome inſtruments, and return in the evening. Return, however, he did not; and this explains my being again ſent for. For thirty hours before I came, he refuſed every kind of ſuſtenance, nor could he even ſwallow drink. He laboured under uncommon agitation of ſpirits, perpetually riſing up, and lying down in the bed, the pulſe quick, but ſuch was his reſtleſs ſtate, that I could form no remark on them; but, on the

whole,

whole, it was pretty evident, that the man was dying. Occupied with no conſideration ſoever, ſave the moſt likely means of relieving the preſent moment; I obſerved in the upper part of the fracture, where the bone was tranſverſely broke, a large fiſſure. If I could introduce the elevator through this, I ſaw I ſhould get under the bone, and, at leaſt, raiſe the depreſſion of the upper fracture. I ſucceeded in a very ſhort time, and took out the entire piece. I paſſed in my fingers, and removed two more pieces, ſtretching up from the orbit. The entire parts were cleared, and the dura-mater looked uncommonly well.—From the moment the elevator got under the depreſſion, and before any efforts were made, he grew quiet and compoſed; and when the bones were removed, he ſpoke; and after being dreſſed, took a draught of whey with great eaſe. I left directions with an handy man in the village, and deſired, if he was alive, and any thing better in two days, to ſend me word; however, he died the evening of the next day.

CHAPTER

CHAPTER XX.

Fractures, attended with wounds of the dura-mater, and contuſion of the brain, moſtly fatal. A caſe in point.—Another to ſhew, that wounds of the dura-mater and brain, of a leſs formidable nature, are remediable. Fatal inſtance of a wounded cerebrum, attended with concuſſion.——Caſe of a ball lodged in the cerebrum.—A formidable fracture, with diſcharge of the brain.—Treatment of exfoliating craniums.—Two inſtances of partial diſlocations of the vertebræ of the neck.

THE Curious and perſevering Surgeon who has impoſed on himſelf the labour of going over the preceding ſheets, will, no doubt, be ſurpriſed, that in ſo extenſive a courſe of practice, ſo few inſtances ſhould occur of injuries, in which the dura-mater and brain, had borne their parts.

Of

Of penetrating wounds by inciſive inſtruments, enough has been ſaid, to prove them in general, far from being alarming, provided the habit of body is not highly vitiated. In the inſtance of Dempſey (caſe 59,) we have ſeen, not only a wound, penetrating through the ſkull and membranes to the brain; but this injury rendered infinitely more formidable, by an extended fracture, with conſiderable depreſſion, which was not relieved for 12 days, yet the penetrating wound, went on as happily as could be expected, or hoped for! But in fractures, impoſed by blunt inſtruments, where the membranes of the brain are torn through, and this organ ſeverely injured; there is every reaſon to apprehend, that fatal conſequences will follow. For the very contuſion of the brain, will bring on ſuppuration of parts of it; and when this once commences, it is not eaſy to ſay, when it will end.

CASE LXXVII.

ONE Taylor, a tenant to Mr. Welſh, of Doona, in a riot, received a moſt dreadful blow of a ſpade, juſt where the iron is fixed in the wood. It forced its way through part of the left parietal bone, through the coronal at that ſide, and ended at the frontal ſinus, tearing through the membranes, and part of the brain, leaving a great ſeparation of the bones, and a moſt profound hiatus! This happened about eight in the evening, in the month of June, 1779; and ſoon after nine, Mr. G. Welſh called upon me to viſit the man. He had bled profuſely, as may well be ſuppoſed, and the appearance was truly frightful. But, notwithſtanding the outrage, he was clear and collected in his intellects. To prevent the protruſion and ſeparation of the brain for the preſent, which I knew muſt happen ſooner or later, I covered the opening with fine ſoft linen,

linen, over which looſe lint was laid, and covered the whole by plaiſter and bandage. Conſidering the nature and extent of the injury, it required little wiſdom or preſcience to declare it mortal; but, I aſſured the people, that his diſſolution was by no means near; that a ſeparation of parts of the brain, would take place in three or four days; that, as it encreaſed, it would gradually be attended with an encreaſing ſtench; and, that finally, about three weeks would cloſe the ſcene. I left directions how to dreſs him. Every thing turned out, as I had foretold, but he did not die, 'till the 27th day from the injury, preſerving his intellects clear, to his diſſolution!

CASE

CASE LXXVIII.

AUGUST 21, 1784, Thomas Downs, aged about eleven years, was brought to the Hoſpital by his parents. Some moments before, he received a kick from an horſe, on the upper part of the right parietal bone, which cauſed a wound, with an extended and depreſſed fracture. The lower edge of the depreſſion, had torn through the dura and piamater, and made a lodgment for itſelf, in the ſubſtance of the brain, and through the opening, ſmall portions of the brain were ouzing out. I immediately proceeded to the operation, and after raiſing up the piece that had pierced the brain, I removed it entirely, which was eaſily done, being nearly ſeparated at its upper part, ſo deeply was the other extremity beat in! He was collected, his pulſe were regular, ſo I ordered no kind of medicine for him, ſave a decoction, which was to be thrown

up

up in the evening. The wounded membranes were dreſſed with balſ. traumat. and the reſt of the ſore with lint. In three days after, he took, at times, a decoction of the bark; the wound was dreſſed light, ſoft, and expeditiouſly; the wounded membranes began to form an union; and from the fifth day, no diſcharge of brain whatever appeared. This was followed by no untoward ſymptom whatever, and the boy was diſcharged cured the October following. However, it is to be noticed, that the February following, he was again brought to the Infirmary, a ſmall opening having been formed, where the dura-mater was originally wounded, and a whitiſh ſubſtance ſlipping through it. I put over it ſoft lint, covered it with plaiſter, over this a compreſs, wet in ſpirits; the whole ſecured by a tight bandage. I directed the compreſs to be moiſtened once a day, but neither the bandage or it to be diſturbed, for an entire week. The boy was taken back, the ſore in the time was cicatrized, and he got perfectly well.

CASE LXXIX.

JOHN DAVORAN, about ſix years old, was ſtruck by an horſe on the upper and right ſide of the coronal bone, in a field about three miles from town, on the 30th of Auguſt, 1786. He was a good while miſſing, and after a ſearch of four hours, was found by his father, quite motionleſs, and to appearance dead, but finding him ſtill warm, he was brought home, his limbs rubbed with warm cloths, and he put to bed. He ſoon diſcovered ſtrong ſymptoms of recovering life; which were greatly aſſiſted by ſpontaneous puking! In an hour after, he recovered his ſenſes, ſeemed compoſed and quiet, and ſo continued. September the 2nd, he was brought to the Hoſpital, when a conſiderable fracture appeared, with a formidable depreſſion. On removing a part of the ſound bone, at the edge of the fracture, to make room for the elevator, a conſiderable

diſcharge

diſcharge of matter followed, ſucceeded by ſome portions of the brain. It appeared, that the depreſſed part forced its way through the membranes to the brain, the ſurface of which had ſuffered greatly. The four following days, a good deal of matter poured forth at each dreſſing, mixed with ſome portions of the cerebrum. The 6th of September, a large portion of the dura-mater puſhed through the wound, with a quantity of the brain, about the ſize of a ſmall apple, both of them dark and diſcoloured. The 7th, the obtruded part of the brain fell off, and was ſucceeded by another of like ſurface and figure. The 8th, the left ſide became paralytic, but he was ſtill ſenſible. Lumps of the brain now preſented themſelves every morning to the ſore, and were nearly melted down by the next dreſſing, to make way for others. The ſmell from the ſore, which about the fifth day became diſagreeable, was now ſcarce ſupportable. This was nearly his ſituation, except that he grew viſibly weaker, to the 16th. From that day, to the 26th, he was at times delirious. After

this to the 4th of October, he was nearly insensible; when he expired, with very little pain or trouble!

In this case, the fracture was accompanied by concussion, because the boy remained five hours in a state of insensibility after the injury; and this probably might dispose the brain to that rapid dissolution, which was not the consequence in the instance preceding it. *I have in general remarked, that discharges of matter, succeeding the elevation of a depressed bone, are by no means favourable signs; and that a dissolution and discharge of the substance of the brain, is seldom or ever restrained; and of course, may be deemed a mortal sign.*

CASE

CASE LXXX.

A moſt reſpectable character, whoſe premature death has been univerſally deplored, received September 5, 1791, a proud meſſage, in conſequence of ſome ſevere words haſtily expreſſed, on the conducting of ſome legal proceſs. His intentions, it is ſaid, were to receive his antagoniſt's fire, and then quit the field, without any further apology. He was remarkably brave and generous, and beſides, an excellent ſhot. The antagoniſt's *ſecond* recommended to his principal, by no means to part with his firſt fire, till he received that of his adverſary, otherwiſe he would infallibly fall! They took their different grounds, and remained for near three moments, with preſented piſtols, (my friend delaying the time, in order to force his fire.) But perceiving by the level of his piſtol, that it was but too well directed, he haſtily let fly, in order to derange his antagoniſt. The fire was inſtantly returned

turned, and the gallant O'C——— fell! he was raiſed from the ground; and in about three or four moments, ſo far recovered, as to be able to move to a carriage in waiting; but unable to bear the motion, he was carried to an adjoining public-houſe. An expreſs was forwarded to Ennis, for aſſiſtance; and in ſome time after the arrival of theſe gentlemen, I was ſent for, another meſſenger followed, announcing, that it was a contuſed wound only, and that the ball did not penetrate. In conſequence of news to me ſo pleaſing, I was about to return, but would not be ſuffered. I arrived about eight in the evening,—ſix hours after the affair and found him in bed, ſenſible, and compoſed, but with a very rapid hard pulſe, though he had been twice bled in the time, and he complained of a moſt ſevere pain in the back of the head. The ball had forced its paſſage through the middle of the temple of the right ſide; and upon introducing the probe, it appeared, that its penetration into the ſkull, was about an inch more poſteriorly. Beyond this, was a conſiderable tu-

mefaction,

mefaction, reaching to the ear. We retired for a ſhort time, to an adjoining room, and I there informed his friends of what I apprehended was his real ſituation, and that I muſt immediately proceed to an operation. I explained to O'C—— the nature of the injury, in the gentleſt terms; informed him, that it required a cloſer inveſtigation; and how much I felt, that ſo diſagreeable a taſk fell to my lot! He immediately acquieſced, and with a circular ſweep, I removed the integuments immediately ſurrounding the fracture, and took out three ſplints, which gave room to the elevator, and I raiſed up a conſiderable piece of the coronal, deeply immerſed in the brain. The bleeding was rapid, and this determined me to dreſs up haſtily, and the gentle preſſure of an hand ſoon ſtaunched the blood. It was both idle and ungenerous to mince matters, ſo I fairly communicated to his friends my opinion and my apprehenſions——that the ball muſt have made a deep lodgment for itſelf in the ſubſtance of the brain; and that it muſt prove mortal——probably the ſcene

might

might close in two or three days, from the rapidity of the present fever and inflammation; or, if he was able to weather this storm, the suppuration of the brain would follow in some days after, succeeded by paralysis and death. I strongly recommended to them the speedy adjustment of his spiritual and temporal affairs, and retired for the night to a gentleman's house in the neighbourhood. About eleven that night, word was sent me, that he was better, very strong, and his friends hoped, not so bad as I apprehended. It was in consequence proposed to me, to call in more help. I told them, I wished for a gentleman, whose experience and abilities I could depend on, and mentioned Mr, M'Knight. Dr. Shearer was mentioned with him, and to this I could have no objection. A messenger was directly dispatched. Mr. M'Knight was indisposed, but Dr. Shearer arrived about one next day, and with him, a couple of young gentlemen as assistants. I removed the dressings soon after, and the nature of the injury appeared in its most marked features! The ball in its passage,

had

had fractured and depreſſed the bone, in every direction round it, and its opening into the brain, reſembled that of the tube of a funnel. There was no neceſſity for the trepan. Too much ſpace had been already made; ſo, with ſome pains and induſtry; I removed ſome pieces of bone, and raiſed others. The perforation of the ball was ſo conſiderable, that inſtead of a probe, I eaſily introduced my finger above an inch, without pain or trouble. My mind had been already made up, about the iſſue of this buſineſs, and I repeated it fairly and freely. The remainder of the day and night paſſed like that of the preceding, but Dr. Shearer having a call to Limerick, begged I would dreſs early next day. I did ſo. The diſcharge was very inconſiderable, but the fever was ſtill very rapid, and the pain in the back of the head continued. I wiſhed Dr. Shearer to remain, as I apprehended affairs were approaching faſt to a final concluſion; but other engagements made it impoſſible. At 12 o'clock that day, I met the venerable Dr. Finukan, his ſon, and Dr. M'Donough. The

fever

fever rather encreaſing, we agreed to draw more blood. It was highly buffed and inflamed, and the pulſe at this time at 98. It was determined in four hours after, if the fever did not leſſen, to venture another bleeding. It was accordingly done, but the blood was quite pure, and the pulſe became ſo rapid in an half hour after, as to beat 119 in a minute. What more need be ſaid to this buſineſs, but that about twelve that night, he expired; but with the ſentiments of an Hero, and a Chriſtian!

I had propoſed next morning to have the head opened, ſuppoſing an inqueſt neceſſary; but it would not be heard; beſides, it was remarked to me, that the crouds, who flocked about the body of the deceaſed, had already cauſed a ſwelling and putrefaction. It was, however, examined, after my quitting, and I am told, confidently affirmed, that no ball was found, that it rebounded, after cauſing the fracture, and flew off; and, as a further proof, it was added, that if the ball had penetrated,

he

he could not be in exiſtence an hour after! To attempt ſeriouſly, to refute thoſe aſſertions of raſhneſs and inexperience, would be below the dignity of a profeſſional man, for it is a fact, well known, that balls have been found inſide the cranium, many years after their being received, and during this interval, the parties enjoyed good health. Beſides, it remains to be explained, by what mechaniſm, a ball could cauſe a fracture, and that at the diſtance of an inch from its entry, and then rebound. Could it recoil through the wounded part? The orifice was much ſmaller than the ſize fo the ball, which proves the velocity, with which it was carried. For it is a fact, too well eſtabliſhed, that the entrance of a ball is always much ſmaller than its exit. No other paſſage could be found! But enough of this contemptible buſineſs.

REMARK.

REMARK.

THE Symptoms attending this Caſe, in my opinion, merit particular attention; and yet, it may probably be more or leſs the caſe in all penetrations of the ſkull from fire-arms. My want of further experience in this line, makes me ſpeak thus diffidently. But if it be the fact, this uſeful inference may be drawn—*That where fever, pain, and inflammation, very ſpeedily ſucceed to wounds of this claſs, they muſt become a ſtrong preſumptive proof, in the firſt inſtance, that the ball has paſſed into the brain.* We have ſeen in the courſe of this work, very many inſtances, (to which more could be added) of fractures, with deep depreſſions on the brain, without this organ's being wounded; and others, in which it was evidently ſo. Yet, in all theſe inſtances, ſcarce the exiſtence of fever could be traced for many days, and reaſon remained unimpaired!

Even in the preſent caſe, though fever and pain followed; though the paſſage into the brain was much larger than the external orifice, and ſo profound, as to afford a free introduction to my fore-finger of near two inches; yet, even this aggravated circumſtance did not deprive the patient of his reaſon! How far theſe remarks may aſſiſt, in forming a clearer opinion of the nature of this organ, of inflammation of the brain, and of the prudent uſe of opiates inſtead of ſtimulants in theſe caſes, muſt be ſubmitted to the Phyſiologiſt or Theoriſt, and to the much more uſeful member, the practical Phyſician.

CASE LXXXI.

ON the 16th of laſt December, ſome trifling diſpute aroſe near the Exchange, about hay. *As uſual*, the tranſition to blows ſoon followed. The party aſſaulted flew to an adjoining houſe, ſeized on a bar of iron, and ſoon returned to the charge. The two others went off, and one Moynehan, an induſtrious farmer, occaſionally ſtanding in the place, was deſperately aſſaulted. Upon a ſuppoſition, that he was the aggreſſor, he was, in this ſituation ſeized on, and committed to priſon.—Next morning, his innocence appearing, he was diſcharged, and dreſſed by ſome one. On the morning of the 18th, I was called in, his head had been ſhaved, and though a conſiderable depreſſion of the coronal bone was manifeſt, yet nothing appeared externally, but a very ſmall wound, not larger than the orifice of a lancet, and equally ſmooth and even. Through this,

this, I paſſed my probe, and ſoon informed myſelf of the ravages underneath. The blow had been levelled at the right ſide of the coronal bone, almoſt adjoining to the coronal ſuture, and at ſome diſtance from the ſagittal. It occurred to me from the profundity of the fracture, and the inequalities I felt, that the bone had been broken into different pieces; and of courſe, if I could diſengage one, that room enough could be acquired, by means of the elevator and forceps, to remove others, and prevent the uſe of the trephine, which I have often ſucceſsfully done. Agreeable to theſe ideas, I removed about the ſize of a crown-piece of the fleſh, ſurrounding the fracture, and fell to work. In a little time, I extracted a piece of the coronal bone, much larger than the orifice. At the edge of the fracture, the bone was entire, but about an half inch from this, the internal table was completely detached from the external, and ſunk deep in the brain. The extremity, ſo beat in, was pointed, ſmooth and ſharp. Three other pieces of leſs magnitude, as well as ſome ſplints, were removed.—

It was evident to me, that the brain was wounded, becauſe ſome of its medullary, as well as cortical ſubſtance, appeared on the ſurface of the wound. His pulſe were, as uſual, ſlow and regular, he was perfectly compoſed, and at the ſame time, highly ſenſible of his critical ſituation. I ordered, as uſual, a julap-- ex mixt. ſalin. aq. prelogic tinct. caſtor and valer. with twenty drops of tinct. theb. to be given once in three or four hours; and directed for his diet, ſagoe with a little wine, ſeaſoned broth, &c. He ſeemed lighter next day; but the dreſſing had a ſour ſmell, even before taken off. This day, more of the brain appeared, but the diſcharge was diſcoloured and blackiſh. The 20th, the ſize of a nutmeg of the brain, was puſhed up through the ſore, and the ſmell of this laſt rather diſagreeable. I told him in the gentleſt manner, what were my ſentiments, with reſpect to his caſe, and recommended to him to prepare for the worſt, whilſt I had ſmall hopes, that affairs might take a turn for the better. He told me, that he had a clergyman the evening before, and had

alſo

alſo ſettled his temporal concerns. The 21ſt, a much larger piece of the brain appeared, which I removed with the ſide of my probe, and dreſſed the wound with balſ. traumat. The 22d, the ſize of the obtruding brain was not ſo large, but his friends, from the ſight of it, declared he could not live. I told them, I was of the ſame opinion; and, in conſequence, they talked of removing him directly to the country. I remarked the great danger of this meaſure—that he might die on the road—that he would be removed from every aſſiſtance, and the trouble and expence attending an inqueſt there. However, carried away he was, and I then wiſhed to be informed from day to day, how he went on. In three days after, word was brought me, that he was not worſe, and that no part of the brain was puſhed out that day. The 28th, he continued the ſame way, but an hard ſubſtance and brown, the ſize of a ſmall apple, filled up the ſore. I deſired it to be ſprinkled with roche allum at every dreſſing, and in every thing elſe, treated as uſual. January the 2nd, the excreſcence

continued. and matter was preſſed into the wound, from a little above the external canthus of the eye. I could now form no opinion ; ſo told them, I thought it neceſſary to ſee him. On a perſuaſion, that he could not recover, they did not chooſe to be at this expence. On the 4th, things remained as before, but with this addition, that the diſcharge from near the eye had encreaſed. As he aſſured me, he received but one ſtroke, and that the effects of this were highly evident, it never occurred to me, to ſearch for a freſh injury, where I could expect none. I now told his brother, that if he came, or ſent at an early hour next day, I would viſit the man, from principles of commiſeration. I accordingly went, and an horrible and diſagreeable paſſage it was ! The protuſion was part of the brain, become hard from the eſcharotic ; but what was my ſurprize, on examining the place from whence the matter came, to find a very conſiderable and extended fracture ſtretching from the former, to very near the orbit,

bit, which proves he muſt have received more than one or two blows! The matter was digeſted, and had no bad ſmell. The bone was quite detached from the upper orifice of the tranſverſe fracture, at its poſterior ſide, but adhered by means of the pericranium, at its anterior edge. Apprehenſive that if I removed this laſt portion of bone, the brain might pour forth, I contented myſelf for the preſent, with raiſing it up, by means of the elevator; and told them, that if he held his ground for about ſix days longer, it might ſafely be removed. I had accounts of him from day to day—That the diſcharge from the bone continued; and that excreſcences were puſhed up to the ſore, but no requeſt to make another viſit—probably they expected I would do it from myſelf. This not proving the caſe, the 12th of laſt January I was called on. A fungus of the ſize of a ſmall apple, covered the ſurface of the wound. This, I eaſily removed; ſeparated the adheſion of the pericranium, and removed a piece of the anterior part of the coronal, two inches long, an inch broad at top, and an inch and a quar-

ter at the bottom. Some matter and blood followed, but nothing elſe. The ſurface was lightly dreſſed; the funguſſes ceaſed to ſhoot out; a conſiderable cavity became formed; a watery humour was diſcharged at every dreſſing, and by the end of the month he was quite well—Had I recollected early enough, that the wound of the brain, was almoſt an inciſive one, I would certainly be more cautious in my prognoſtic.

Much has been ſaid on the exfoliation of denudated parts of the cranium, and on this ſubject, Mr. Queſnay * has publiſhed a very intereſting paper. On ſubjects obſcure, and involved in difficulty, every poſſible light ſhould be thrown. On a careful retroſpection of my own practice, I have met but little trouble from this complaint. Formerly, when I uſed the knife with a liberal hand, the bare bone has ſometimes become diſcoloured; at other times, dry, with little tendency to cover. In both caſes, I have made ſlight perforations

* Memoires de l'Academie Royale de Chirurgie, T. 2. p. 96.

on

on the bone, and theſe have been generally followed in two or three days, by little granulations of fleſh, and then by a new pericranium, and firm covering. In fact, I have conſidered Nature as powerful in her reſources; and the ſenſible Surgeon or Phyſician, who carefully conſults her, in her own wants, will no where meet a more uſeful aſſiſtant. More bone is laid bare in a fractured ſkull than is neceſſary; or, at the very inſtant of the fracture, its force may extend to little laminæ, on the outer table of the ſound bone. In the firſt inſtance, exfoliation may, or may not follow: in the ſecond, it certainly will. Why is the bone liable to dryneſs or diſcoloration in the firſt inſtance? Is it not becauſe theſe parts are expoſed to cold air, that Nature never meant ſo to be; having, beſides, a particular covering for the bone itſelf, fleſhy integuments as an additional guard. In caſes, like this, the lighter and ſpeedier the parts are dreſſed, and the leſs encumbered with extraneous ſubſtances, the ſpeedier Nature will bring about her own buſineſs. Let us not apprehend, that the parts

may heal too ſoon, and ſo oppoſe Nature's works. To the end of time, they will not heal firmly, if the bone underneath is not ſound and covered. So that in ſuch practice, we rather retard, than aſſiſt Nature. If the bone ſhould appear dry or diſcoloured, I would recommend ſlight perforations here and there through part of the outer table, cover the part with ſoft lint, imbibed in ſpirits; and not open it, but every other day. I have ſometimes ſprinkled the diſcoloured bone with pulvis angelicus; and I have more caſes of this kind, that ſucceeded without an exfoliation, than that did with it.

Where the violence of the hurt has extended to the injuring parts of the outer table, adjacent to the fracture, exfoliations may undoubtedly be expected. But ſtill let it be remembered, that it is the work of Nature, and that ſhe will be our beſt and ſureſt monitor. Let us only ſecond her views, and things will ſoon come about, without danger or much delay. I have met with a variety of uncovered bones:

I have

I have ſeen pale, flabby excreſcences ſpring up, and at the ſame time felt the bone bare underneath. I have from time to time ſprinkled this exuberant fleſh with pulv. angelic. and have at the ſame time, carefully avoided poking the bare bone. Things have in a ſhort time aſſumed a better aſpect: the riſing fleſh has grown better coloured and firmer, and Nature thus not interrupted in her buſineſs, has ſoon brought affairs to an happy iſſue! I have ſometimes obſerved a black ſpeck in the middle of this fleſh, and to riſe with it. This, I have to a certainty known, to be a ſcale from the bone. I have not nevertheleſs poked the ſore with my probe, nor altered my dreſſing—namely, dry ſoft lint, ſometimes animated with the eſcharotic; and in two or three days have, with my forceps, removed a ſcale of the bone, often larger than a ſhilling; and every thing has terminated happily. The following inſtance produced the greateſt number of exfoliations I ever met with; and I have therefore reſerved it for this place.

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CASE LXXXII.

WILLIAM DAVITT, clothier of this City, had ſome diſpute with a ſtout, athletic young wench, who, from the conſequences, we may conclude, was not poſſeſſed with ſuperabundant paſſiveneſs and mildneſs. It happened in the middle of the day, at the Market-houſe. He called her by ſome hard name, and ſhe directly proſtrated him. He fell on his back, and ſhe ſeized a large braſs weight, and ſtruck him repeatedly on the left ſide of the coronal, and a little above the frontal ſinus. The man was carried off; and being informed, that he was extremely poor, and had a good many children, I was impelled, from motives of humanity, to viſit and aſſiſt him. The fracture was conſiderable, and the bone deeply beat in. I trepanned him next morning, raiſed the depreſſion, but I made a much freer uſe of the knife at that time, and long before it, than

I did

I did ſince. In the courſe of ſome days, granulations appeared in ſome parts; in others, the bone was diſcoloured and duſky. The diſeaſed bone I ſprinkled with pulvis angelicus, and the whole ſurface was dreſſed with ſoft dry lint. I never oppoſed the act of healing; and I even THEN conjectured, it would advance the ſcaling of the diſeaſed bone. The event ſhewed I was right. One or two black points of the ſcales appeared, and in two or three days after were removed. Theſe were followed by others, which were taken away with equal facility. Still the great object of healing went on, and met with no oppoſition by an impertinent intruſion of the probe. Even when the cicatrice was almoſt formed, two ſplints, one of them larger than a ſhilling, preſented themſelves to the ſurface of the ſore! This man got a laſting cure, and is now in perfect health, though it is about twenty years ſince he and this gentle nymph had the *fracas*.

That

That I may leave nothing unſaid, with reſpect to diſorders, produced by injuries to, and falls on the head, I ſhall now preſent to the reader, two moſt ſingular caſes—I believe the only ones extant—of a moſt alarming and melancholy nature. They occurred in the ſpace of five years; yet, from their happening in ſo circumſcribed a part of the kingdom, I ſuſpect they muſt have been more frequently met with, did gentlemen take pains to preſerve diaries of remarkable caſes. A partial or incomplete diſlocation of the vertebræ of the neck, from a fall on the head, it muſt be confeſſed is a new caſe; though ſudden deaths, from a complete diſlocation, in hunting or hard riding, is by no means ſo.

CASE

CASE LXXXIII.

ABOUT twenty years ago, when the late SPEAKER's, now the See-houſe, was building, one of the maſons fell back from the ſcaffold, then not above four or five feet high, head-foremoſt, on a ſoft, graſſy mould, and when taken up, was totally deprived of motion and ſenſation! In this helpleſs condition, he was carried home on a door, his head cloſe ſhaved; and he was viſited by other gentlemen, as well as by me. No veſtige of any injury whatever, could be traced in any part of the head. He was compoſed and ſenſible, his pulſe ſlow and ſtrong, but from about the third vertebra of the neck, down, he was deprived of motion or feeling! His head was ſtiff, and a little bent back, but his chin ſeemed puſhed forward. We directed a warming, invigorating leniment, to chafe the

the head and ſpinal marrow, and the limbs to be rubbed with a fleſh bruſh. I know not, whether he was regularly viſited after this; ſo ſhall confine myſelf to what came within my own knowledge. About ſix hours after, I paid him a ſecond viſit, and whatever doubts I had entertained, as to the nature of the injury, were now completely done away. His diſcharges by ſtool and urine were involuntary; and, of courſe, there was a viſible preſſure on the ſpinal-marrow. I examined the vertebræ of the neck, and could feel no ſenſible projection in any one of them. I placed one hand under his chin, and the other at his poll, to draw up the head as much as I could; and from this, he acknowledged a ſenſible and momentary relief. I cauſed a ſtrong man to preſs down his ſhoulders, and then attempted a more violent extenſion. This procured him more eaſe, but the effect immediately ceaſed with the cauſe. I ſaw him no more, but heard the involuntary diſcharges ſoon produced excoriations and gangrene, and he died the third day.

Whatever

Whatever opinions other Gentlemen might entertain of this caſe, it was to me, clear and decided, that a partial preſſure of the ſpinal marrow, at the third vertebra of the neck, was the cauſe of his death. I wiſhed to examine the parts, after diſſolution, but would not be permitted.

CASE

CASE LXXXIV.

About five years after, a ſervant to Mr. Arthur, of Gleanomra, but who was then a reſident in this City, in aſſiſting to make a ſtack of hay, fell backwards from the ſide of the ſtack, at no great diſtance from the ground. His head came firſt to the ſoft mould, and he was taken up motionleſs and totally inſenſible, from the neck down, and his natural diſcharges were involuntary. The family Phyſician and Surgeon were ſent for, and attended him for three days. Mr. Arthur then begged, I would viſit, on principles of humanity and charity. I did ſo. The head was ſtiff, and a little bent back, and the chin protruded, exactly as in the former caſe. I carefully examined the vertebræ of the neck—for theſe of the back and loins were out of the queſtion. I imagined there was a ſmall preternatural projection of the fourth vertebra. I made ſuch an extenſion

tenſion, as in the preceding caſes. He found himſelf much relieved, and continued longer ſo than the maſon. This encouraged me to propoſe a kind of ſuſpending band, by which the head could be raiſed up in a ſtraight line, and by way of counter-extenſion, the ſhoulders preſſed down by one or two perſons, whilſt, with a finger, the projecting vertebra might be preſſed into its place, but I heard that my propoſal was turned into a kind of ſneer. So not chooſing to enter into any kind of altercation with gentlemen, whoſe purſuits in the line of medicine, are different from mine, I ceaſed beſtowing any further attention to this caſe. The man died the ſeventh day, and it is very probable it would be the caſe, had even my method been adopted.

F I N I S.

APPENDIX.

IN the courſe of the preceding ſheets, I had frequent occaſions to remark, that in every ſkull, the injury was more extended on the internal than the external table of the bone, the following caſe which occurred ſince the finiſhing the Work, is too important, and too much in point to be omitted.

CASE LXXXV.

WILLIAM MOORE, one of our Mail-Coach-Drivers, fell into idle company, on the night of the 5th of laſt September; a diſ-

pute aroſe, and he received three ſevere wounds on the ſuperior part of the left parietal bone, each above two inches long, all jagged and deformed, being inflicted by blows of a large kitchen tongs. The firſt was near the ſagital ſuture; the ſecond in a line nearly correſponding with it; and the third was a little more poſteriorly. The night of the 6th, he was brought into the Hoſpital; and next morning I examined him. In the firſt wound I eaſily perceived the bone bare; in the other two, not ſenſibly ſo. But as I am not over-fond of too much poking, I concluded in a couple of days, when ſuppuration was eſtabliſhed, I could be more decided, and with leſs pain and trouble. Soft lint was laid on the ſurface of the wound, covered by digeſtive, and the head bound up. The pulſe were pretty full and hard, and he complained of head-ach. Some blood was therefore drawn, and he took powders of nitre and jalap to open the body. The tenth, I had a conſultation, and it was not decided, whether there was a

fracture

fracture or not. The eleventh, I found a free communication between the firſt and ſecond wound, and that the bone was *here* alſo bare. I directly opened the communication, and removed ſome of the detached integuments. I now found to my ſurprize, in this ſecond wound, a conſiderable fracture, with great depreſſion. I cleared away the parts to make way for the trephine; but being a good deal fatigued with other buſineſs in the houſe, I deferred it to next morning. That night I was ſerved with a crown ſummons, to attend the Aſſizes of Ennis next day, and ſet off at an early hour next morning. I did not return till late the 15th, and next morning I found my man juſt as I left him, but free from fever, headach, or any alarming ſymptoms. I applied the crown of the trephine juſt to the edge of the fracture, and having made ſo deep an impreſſion, that a little blood appeared at the ſides of the perforation, and upon examining with a quill, found the bone nearly divided in every part; I introduced the elevator, thinking

gently to free the bone ; but what was my ſurprize, when the external table ſeparated entirely, and the internals ſtill covering the brain! I dreſſed lightly, and having a ſtrong dependance on my hand, the next morning, I applied the inſtrument to the ſecond table, and with a good deal of caution, fairly removed the piece! The elevator was now introduced, the depreſſed piece raiſed to its level, and the man got an expeditious cure. In this caſe, we ſee the fracture of the internal table to ſtream from the fracture, and under the ſound bone!